Unintended barriers: Exploring first-generation and continuing-generation college students' sense of belonging and their perceptions of instructors' behaviors

by

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B.A., Adams State University, 2013
M.S., Kansas State University, 2018

AN ABSTRACT OF A DISSERTATION

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Abstract

Prior research has shown that instructors often engage in behaviors that (for better or worse) substantially impact their students' subjective experiences within the class. For example, recent research has shown that instructors' subjective experiences during class are likely to "trickle down" and influence the subjective experiences of their students which, in turn, can impact students' engagement and performance on assessments (Saucier et al., in press). Given the ease at which certain students (e.g., first-generation college students, students who feel like they do not belong in higher education) may be likely to misinterpret and react negatively toward common and unintentional instructor behaviors (e.g., low energy level, use of highly technical language), more research that explores the extent to which students' generational status (i.e., being a first-generation vs. a continuing-generation college student) and/or overall sense of belonging in higher education is related to their perceptions of and anticipated responses to various instructor behaviors is needed. As such, two studies were designed to systematically examine the extent to which students' generational status and/or the extent to which they feel like they do (or do not) belong in higher education is related to their perceptions of and anticipated responses toward various instructor behaviors. Study 1 examined the differences between first-generation and continuing-generation college students in their perceptions of and anticipated responses to instructor behaviors that are positive, neutral, or negative. Although there were no differences between these students in their perceptions of and anticipated responses toward the different instructor behaviors, the results from Study 1 clearly show the substantial impact that instructors' behaviors can have on their students' subjective experiences. Students in Study 1 tended to agree more strongly that they had especially favorable perceptions of and anticipated responses toward positive instructor behaviors than neutral or negative

instructor behaviors. Study 2 examined the extent to which first-generation and continuing-generation college students' overall sense of belonging is related to their perceptions of the same instructor behaviors that were used in Study 1. The results from Study 2 generally replicated those from Study 1, but also showed that sense of belonging is significantly related to first-generation *and* continuing-generation college students' perceptions of and anticipated responses toward various instructor behaviors. More specifically, continuing-generation college students with a lower overall sense of belonging tended to rate positive instructor behaviors more negatively, whereas first-generation college students with a higher overall sense of belonging tended to rate negative instructor behaviors more favorably. Overall, the results from these studies contribute to the extant literatures on instructor behaviors, first-generation and continuing-generation college students, and students' sense of belonging within higher education. Further, by identifying the instructor behaviors that (for better or worse) impact students' subjective experiences during class, the results from the current investigation have the potential to inform professional development programs that will attempt to maximize positive instructor behaviors, minimize negative instructor behaviors, and, in doing so, enhance the subjective experiences for both students *and* instructors.

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Table of Contents

List of Figures

List of Tables

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Dedication

For my late father, Craig “Panda” Jones. You were my first teacher, my mentor, and my best friend. I miss you every day.

Chapter 1 - Introduction

> "As first-generation college students, we weren't given the opportunity to grow up with parents who have experienced the college life. Because of this, we don't know what to expect when we jump into college. People who have parents who went to university tend to develop this vocabulary and tend to know what they are getting into..."
>
> -- Anonymous Student

> "I can tell that my family is proud of me for taking that step and doing what I want to do. But it's hard compared to students whose parents went to college. I will sometimes call my parents and tell them about what I am going through and they just don't know what advice to give me or how to help."
>
> -- Anonymous Student

The above quotes, which were obtained during a series of one-on-one structured interviews with first-generation college students (FGCS) at Kansas State University, help to highlight some of the challenges that this unique population faces. It is common for FGCS to feel that they do not belong in higher education (e.g., Strayhorn, 2019), and not fully comprehending the jargon associated with higher education and/or not knowing who to turn to for help can exacerbate these feelings. These quotes also highlight the fact that FGCS tend to be unfamiliar with the culture associated with college, and they may not thoroughly understand what it means to be a college student (Davis, 2010). In contrast, many continuing-generation college students (CGCS; i.e., students with at least one parent with a four-year degree; Covarrubias & Fryberg, 2015; Redford & Hoyer, 2017; Townsend et al., 2019) tend to be familiarized with college culture and what it means to be a college student at a relatively young age because they had the opportunity to speak with their parents about going to college, what college is like, and what it

means to be a college student (Davis, 2010). Such interactions allow for the development of social capital (e.g., role models, social networks; Beagan, 2005; Bourdieu, 1986; Soria & Stebleton, 2013) and cultural capital (i.e., familiarity with and ability to comfortably navigate educational environments; Colman, 1988; Oldfield, 2007), which helps make CGCS familiar with college culture and enhances their sense of belonging *before* they ever arrive on campus. Compared to their continuing-generation counterparts, FGCS are typically forced to figure out what it means to be a college student on their own (Jones, 2018; Pascarella et al., 2004). Unfortunately, having to figure out what it means to be a college student is just one of the many challenges that FGCS face.

Definition, Prevalence, Demographics, and Other Characteristics of FGCS

Arriving at consensus regarding the definition of a FGCS has been a difficult endeavor for educational researchers. First-generation status has often been defined by various researchers as students whose parents or legal guardians never went to college (Chen & Carroll, 2005; Ishitani, 2006; Nunez & Cuccaro-Alamin, 1998; Redford & Hoyer, 2017), perhaps because this is the definition used by various federal programs (e.g., Free Application for Federal Student Aid [FAFSA], Federal TRIO Programs [TRIO]; Stebleton & Soria, 2013). Some researchers have defined FGCS as students whose parents attended (and may or may not have graduated from) a two-year institution rather than a four-year institution (see Toutkoushian et al., 2016 for more). However, other researchers (e.g. Davis, 2010; Ishitani, 2003; Stebleton et al., 2014) argue that such definitions are too restrictive, and they favor labeling students as FGCS if neither of their parents or legal guardians have *earned* a four-year degree. Davis (2010) contends that this should be the preferred definition because even if individuals have *some* college experience, the failure to earn a four-year degree significantly limits their job opportunities (see also Ishitani, 2003).

Further, the children of parents who have some college experience (but have not earned a four-year degree) are likely to grow up in similar households as children whose parents have *never* attended college (Davis, 2010). Indeed, unless a parent or legal guardian has successfully completed a four-year degree, such individuals tend to lack the cultural and social capital relevant to being successful in higher education. Following Davis' (2010) recommendation, students in the current investigation were labeled as FGCS if they indicated that neither of their parents or legal guardians have earned a four-year degree.

Despite the variability surrounding the optimal definition of FGCS, researchers consistently agree that additional research on FGCS is needed because FGCS are entering colleges and universities at an unprecedented rate (Davis, 2010; Engle & Tinto, 2008; Jehangir, 2010a). Over a decade ago, it was estimated that approximately 21% of all first-year college students could be classified as first-generation students (Pryor et al., 2010). In recent years, this number is estimated to have increased to approximately 33% (Forrest Cataldi et al., 2018). Given that approximately one-third of all students enrolled in colleges and universities within the U.S. can be classified as FGCS (Ives & Castillo-Montoya, 2020; Skomsvoid, 2015), it is important to carefully consider the demographics and other characteristics associated with these individuals.

Compared to their continuing-generation counterparts, FGCS are more likely to be female, nontraditional students (i.e., students who enter college over the age of 25, independent from their parents, and/or married with dependents; Bill, 2003; Choy, 2002), students of color, and from a relatively low socioeconomic background (Engle, 2007). Engle (2007) also described FGCS as being especially likely to begin college at two-year institutions, live at home and commute to campus, take classes part-time while also working full-time, and need remedial course work to help them catch up to their continuing-generation peers. Pascarella et al. (2004)

also report that FGCS tend to complete fewer credit hours and work more hours off campus than their continuing-generation counterparts which, in turn, appears to negatively impact FGCS' academic success. Although these demographics demonstrate that FGCS tend to be at a disadvantage compared to their continuing-generation counterparts (Townsend et al., 2019), perhaps the greatest unique disadvantage that FGCS face, that extends beyond these demographics, is their general lack of social and cultural capital (e.g., Beagan, 2005; Oldfield, 2007; Soria & Stebleton, 2013).

Lack of Social and Cultural Capital

As previously discussed, FGCS tend to lack the social capital and cultural capital that help incoming students better understand and manage their new roles as college students (Collier & Morgan, 2008). Further, American universities tend to emphasize cultural norms (e.g., independence) that are antithetical to the norms that many FGCS are accustomed to (e.g., dependence on family and community) which, consequently, can place FGCS at a disadvantage (Stephens et al., 2012). Within a college/university setting, such cultural differences can drastically affect FGCS' experiences and present a number of barriers to their academic and social integration within higher education (Engle, 2007; Oldfield, 2007). For example, CGCS tend to enter higher education with considerably more social and cultural capital and, therefore, are often advised by their parents to take more credit hours or seek employment opportunities on campus so that they can become fully immersed in the college experience (Pascarella et al., 2004). Conversely, FGCS typically do not receive such advice from their parents and are likely to complete fewer credit hours and work more hours off campus than CGCS which, in turn, can have negative implications for personal and professional growth (Pascarella et al., 2004).

Indeed, this lack of social and cultural capital is what makes being a FGCS a unique barrier to academic success, above and beyond the various FGCS demographics that are listed above. For example, when asked in a one-on-one interview about how being a FGCS has shaped her experiences at Kansas State University, one first-generation student said:

> I think it pushed me away a little bit, especially in the classroom. It kept me from feeling comfortable with professors or other students just because of the experiences I would hear them talk about. Knowing that I did not really have the same resources as they did kind of made me feel like I couldn't talk about the same topics as they were. I didn't want them to know that I didn't know anybody who is in the field I was studying, and that this major was just something I took on my own. I think this is what affected me the most because I was almost afraid, or I felt like I didn't have the confidence I needed to succeed.

As this quote suggests, the general lack of social and cultural capital is likely to have a profoundly negative impact on the subjective experiences of FGCS. Research has also shown that because FGCS lack the social and cultural capital of their CGCS counterparts, they are more likely to struggle with the admissions process because they do not have a role model (i.e., parent/guardian) to turn to for help (Fernandez et al., 2008; Gibbons & Shoffner, 2004). Further, because FGCS are unable to discuss the advantages of higher education with experienced role models, they are likely to perceive college differently than their CGCS peers. In their review of the relevant literature, Gibbons and Shoffner (2004) discuss how FGCS are primarily likely to perceive college as a means to earning a good job after graduation and are, therefore, less likely to consider the various factors that go into selecting the best college/university. This lack of consideration concerning the ideal "fit" of a given college/university can lead to FGCS attending an institution that does not meet their needs and/or goals which, in turn, is likely to negatively

impact their overall retention (Gibbons & Shoffner, 2004). Conversely, CGCS have the social and cultural capital they need to be able to adequately discuss the pros and cons of various colleges/universities with their parents (or legal guardians), and ultimately select the institution that best suits their needs/goals, thereby preparing them for success before they ever step foot on campus.

Researchers who study FGCS clearly discuss how being a FGCS is a unique experience that extends beyond a constellation of other demographics (e.g., lower SES; Davis, 2010). Indeed, Davis (2010) argues that "for many people, including many post-secondary educators, the terms 'first-generation student' and 'low-income student' are synonymous" (pg. 34). However, research has shown that the barriers facing FGCS are separate from the barriers facing low-income students (Lohfink & Paulsen, 2005), and that students from low-income backgrounds and first-generation-only backgrounds tend to respond to academic-related challenges differently (Davis, 2010). Davis (2010) further argues that the tendency for FGCS to be misidentified as low-income students is the "reason why the first-generation student category has not crystallized in the same way that other student demographic categories have" (pg. 34.) as well as a contributing factor to why individuals who are unfamiliar with FGCS tend to think that this category of students is interchangeable with others.

Interestingly, other research has shown that there are psychological differences between FGCS and CGCS that can be explained by differences in these students' access to social and cultural capital but cannot be explained by simple demographic differences. For example, in a study by Terenzini et al. (1996), the Collegiate Assessment of Academic Proficiency (CAAP) was administered to over three thousand college students. When comparing the performances of FGCS and CGCS on this assessment, Terenzini et al. (1996) found that FGCS tended to have

weaker cognitive skills than CGCS, and these findings have been replicated in other studies (e.g., Filkins & Doyle, 2002; Pascarella & Terenzini, 2005). Optimistically, research has also shown that the discrepancy between FGCS and CGCS in their cognitive skills can be overcome if they have a supportive campus environment that values the development of critical thinking abilities and other analytical skills (Terenzini et al., 1996). Further, Davis (2010) suggests that FGCS are able to best overcome these cognitive deficits when the goals of a given institution are aligned with the goals of the FGCS. However, as previously discussed, the goals of FGCS and colleges/universities are likely to be incongruent because FGCS tend to lack the social and cultural capital necessary in order to make optimal decisions about their academic needs. Indeed, the lack of direction from experienced role models helps to explain why FGCS often select institutions that are not an ideal fit for their unique needs, thereby putting them at a disadvantage compared to their CGCS peers.

In his discussion on the psychological differences between FGCS and CGCS, Davis (2010) also suggests that that FGCS tend to perceive the world differently than CGCS. More specifically, Davis suggests that because CGCS are raised in homes wherein they can discuss the numerous long-term benefits of a college education, these students tend to be more future-oriented. As such, CGCS tend to see enrollment, graduation, and employment as a continuous, interconnected process, and make decisions based on their long-term goals (Davis, 2010). Conversely, FGCS are unable to have such conversations with their parents. According to Davis (2010), "for many first-generation students and their families, simply enrolling in a postsecondary institution is the main goal, the pot of gold at the end of the rainbow" (pg. 44). As such, many FGCS tend to be more present-oriented and make decisions based on their current needs, even if such decisions are incongruent with their long-term goals (e.g., attending a

college/university that is close to home rather than a college/university that has their desired major; Davis, 2010).

Similarly, research has also shown that FGCS' lack of social and cultural capital is a significant reason why FGCS tend to experience imposter syndrome (i.e., self-doubt and/or an inability to internalize one's successes or achievements; Stebleton & Soria, 2013; Gardner & Holley, 2011). Indeed, research has shown that when FGCS are placed in competitive classroom environments, they are especially likely to experience imposter syndrome as well as a fear that their intellectual abilities will be questioned by their peers (Canning et al., 2020). According to Canning et al. (2020), such "psychological experiences" are likely due to the "cultural mismatch between the interdependent values that [FGCS]" are accustomed to in their home environments, whereas CGCS tend to have the social and cultural capital necessary to be able to thrive in such environments (pg. 653). Overall, the evidence provided here supports the assertion that first-generation status is a unique barrier to academic success above and beyond other potential demographic variables. Low-income and/or minority students are—unfortunately—likely to experience numerous barriers themselves. However, the lack of social and cultural capital regarding higher education places FGCS at a unique disadvantage.

Although FGCS are especially likely to enter colleges and/or universities with a lack of social and cultural capital, there are ways for these individuals to catch up to their CGCS peers and learn how to successfully manage their role as a college student. For example, when experienced (i.e., upper class) FGCS are provided with opportunities to share their experiences with incoming FGCS, they are able to establish a learning community with their peers (Jehangir, 2010b). Indeed, FGCS who share their stories with other FGCS can aid in the transmission of

social and cultural capital, help to close the achievement gap that exists between FGCS and CGCS (Stephens et al., 2014), and help to overcome some of the barriers that FGCS face.

Barriers to FGCS' Academic Success

In addition to the lack of social and cultural capital, FGCS tend to experience a number of other barriers to their academic success. In one relevant study that asked prospective college students to identify perceived barriers to their college success (Gibbons & Borders, 2010), FGCS reported several roadblocks including deficits in academic preparation and persistence, limited finances, a lack of family support, few college-educated role models, experiences with racial/ethnic discrimination, and school-related stress. A review of the literature on these and other barriers experienced by FGCS provides insight into the challenges these students face as they pursue formal education beyond high school and, unfortunately, the disproportionately high rate at which these students drop out of two- and four-year institutions compared to their continuing-generation counterparts (Jehangir, 2010a).[1]

Deficits in Academic Preparation

Compared to students whose parents have college experience (i.e., CGCS), students whose parents did not go to college (i.e., FGCS) are less likely to be academically prepared for college (Engle, 2007). One potential explanation for this is that students from different backgrounds (e.g., homes with parents who did or did not graduate from college) tend to have different conceptualizations of higher education (Jones, 2018) which, in turn, impacts the extent to which CGCS and FGCS prepare for higher education (Townsend et al., 2019). Research has shown that students whose parents did not go to college are disproportionately unqualified for admission to four-year institutions (Choy, 2001; Engle, 2007) and tend to struggle on college entrance exams (Ives & Castillo-Montoya, 2020; Warburton et al., 2001). These deficits are

partially due to the tendency for FGCS to be less likely than CGCS to complete certain courses while in high school (e.g., advanced mathematics) that help to prepare students for the rigors associated with college-level courses (Warburton et al., 2001). A possible explanation for this discrepancy could be that some FGCS tend to have a negative academic self-concept (i.e., evaluation of oneself as a student based on previous experiences and expectations) than their CGCS peers (DeFreitas & Rinn, 2013), which could, in turn, dissuade FGCS from enrolling in difficult courses that would better prepare them for higher education. Further, for the FGCS who are admitted to four-year institutions, they are more likely than CGCS to need to take at least one remedial course during their first year of college (Warburton et al., 2001) and to have a lower GPA at the end of their first year of college (Strayhorn, 2006). According to a systematic review of the literature by Ives and Castillo-Montoya (2020), the tendency for many FGCS to be unprepared for higher education is a "consequence" of being a FGCS (pg. 153) and not having the same access to the social and cultural capital as their CGCS peers.

Deficits in Academic Persistence

Still more of a consequence of being a FGCS than a barrier, FGCS also tend to be less academically engaged (e.g., contributing to class discussions, asking questions, connecting ideas/concepts across classes, interacting with instructors) in their college-level courses than CGCS (Soria & Stebleton, 2012). Indeed, Soria and Stebleton (2012) contend that the tendency for FGCS to be less engaged in their college/university courses than are CGCS is a direct result of FGCS' lack of engaged role models or other helpful social networks (i.e., social capital). Unfortunately, this lack of engagement can make it difficult for FGCS to achieve academic success and persist with their studies (Vuong et al., 2010). Further, persistence among FGCS has received considerable attention, not only on college campuses, but as a focus of research because

FGCS are less likely to persist through the first two years of college than CGCS (e.g., Lohfink & Paulsen, 2005). In their comparison of persistence rates among FGCS and CGCS at four-year institutions, Lohfink and Paulsen (2005) found that approximately 76% of FGCS persist from their first to second year of college compared to approximately 82% of CGCS. Interestingly, Lohfink and Paulsen's (2005) study also revealed that there are some demographic characteristics (i.e., being married, Hispanic, or female) that are related to diminished persistence rates among FGCS, but *not* among CGCS with the same demographic characteristics. Such findings suggest that even when the demographics between FGCS and CGCS are identical, simply being a FGCS and having a general lack of social and cultural capital is likely to negatively influence these students' overall academic persistence. Similarly, research has shown that the inability of FGCS to share their persistence struggles with experienced parents is likely to negatively impact these students' expectations about their own persistence in higher education (Lightweis, 2014).

Also related to FGCS' deficits in persistence, research has shown that FGCS are less likely than their CGCS counterparts to persist within higher education if they are dissatisfied with their college experiences (both socially and academically; Forbus et al., 2011), and unable to experience a positive interaction with their instructors (Schreiner et al., 2011). Unfortunately, the status and struggles of FGCS are typically out of the awareness of instructors and peers, and this "invisibility" can make it especially likely for them to "slip through the cracks at [their] institution" (Stieha, 2010, pg. 247) and go unnoticed by their instructors and/or peers. Such invisibility can also make it difficult for FGCS to integrate into their college/university communities which, in turn, may impair their odds of persisting in their pursuit of a college degree (Woosley & Shepler, 2011).

Lack of Financial, Informational, and Emotional Support

A report by the Institute for Higher Education Policy (IHEP) argues that college affordability is a significant problem within the United States, and this problem is exacerbated by social inequities (Poutré et al., 2017). This report also indicates that college affordability is a function of students' financial backgrounds such that students from wealthy families can afford to attend almost any college or university, whereas students from low- to moderate-income families can afford to attend only one to five percent of all colleges and universities (Poutré et al., 2017). Because FGCS tend to come from lower SES homes (e.g., Bui, 2002; Engle, 2007), it is unlikely that these students' families can make large financial contributions to their academic endeavors. As such, FGCS tend to be more likely to worry about their financial aid compared to their CGCS counterparts (Bui, 2002) which, in turn, may negatively impact their academic success (Engle, 2007). Further, given that federal funding programs designed to help students pay for college (e.g., Pell Grants) continue to get slashed (e.g., Baum, 2015; Burd, 2018), FGCS frequently report that paying for college is a substantial barrier to pursuing or earning a college degree (e.g., Gibbons & Borders, 2010). As such, FGCS tend to be more likely than CGCS to cite financial concerns as their primary reason for leaving college without a degree (Redford & Hoyer, 2017). To help pay for school, FGCS are more likely than their CGCS peers to have full-time and off-campus jobs (Martinez et al., 2009; Pascarella et al., 2004), which also puts FGCS at a relative disadvantage. For instance, students who must work extensively while attending college are especially likely to experience difficulty in making important connections with various individuals (e.g., instructors, classmates) on campus (Soria & Stebleton, 2013), which also may negatively impact these students' academic persistence and overall success (Engle, 2007).

The financial barriers that FGCS face can also be exacerbated by a lack of non-financial familial support. Research has shown that *informational support* from parents about how to be successful in college and *emotional support* from parents regarding college-related stressors are critical predictors of persistence for both FGCS and CGCS (McCarron & Inkelas, 2006; Westbrook & Scott, 2012). Such informational support can include preparing students for the potential inevitability of having to apply for financial aid and/or taking out loans to pay for college. Unfortunately, however, parents of FGCS may not have the knowledge or experience necessary to help their adolescents navigate the murky waters associated with the various types of financial aid that are available (e.g., grants, scholarships, loans), thereby contributing to FGCS' lack of knowledge concerning college finances and budget management (Thayer, 2000). Not having this type of familial support also appears to negatively impact FGCS' attitudes toward pursuing and receiving financial aid with FGCS tending to be more averse to accumulating student debt than CGCS (Somers et al., 2004). Prior research has also shown that FGCS tend to receive considerably less emotional support from their families than do CGCS (Jenkins et al., 2013). This is not to say that parents of FGCS do not support their students' academic endeavors. Rather, many family members of FGCS tend to lack the experience and insight (i.e., social and cultural capital) necessary to help FGCS manage the many stressors associated with attending college (Tate et al., 2015).

Sense of Belonging

A common theme among many of the barriers addressed here is the extent to which they may impact FGCS' sense of belonging within higher education. If FGCS feel like they do not belong in higher education, they may (a) not prepare for college while in high school (Warburton et al., 2000), (b) be unlikely to persist and earn their college degree (e.g., Hausmann et al., 2007),

(c) be intimidated by the financial obligations associated with higher education (e.g., Soria & Stebleton, 2013), (d) choose to stay at home, or at least relatively close to home, in order to maintain a sense of belonging with their family and/or culture (Ma & Shea, 2019), and (e) feel like an outsider if they fail to quickly figure out the college student role and the norms/customs associated with higher education (e.g., Collier & Morgan, 2008; Soria & Stebleton, 2013). Given the importance of FGCS' sense of belonging and its impact on their overall success in higher education, and the central role that the concept of belonging plays in the current investigation, it is important to thoroughly review the theory and research associated with this topic.

Psychological Roots of the Concept of Belonging

Within the field of psychology, a sense of belonging has long been considered an important and basic need (e.g., Maslow, 1943). Maslow (1943, 1954) proposed that humans have a *hierarchy of needs* that starts with our most basic needs (i.e., physiological, safety, belonging) and concludes with more complex growth needs (i.e., esteem and, ultimately, self-actualization). Further, a core tenet of Maslow's hierarchy of needs is that people must have their lower, basic needs satisfied before they can progress to meet their higher, more sophisticated needs (McLeod, 2007). With regard to a sense of belonging, Maslow (1962) proposed that this is a critical basic need and that our desire to fulfill this need is what motivates us to seek out group memberships and important connections with others (e.g., Rose et al., 2016; Strayhorn, 2019).

Similar to Maslow, Baumeister and Leary (1995) contend that humans possess a fundamental need to belong and are driven to establish and maintain meaningful social relationships. In their need-to-belong hypothesis, Baumeister and Leary (1995) propose that belonging is a fundamental need because possessing a strong desire to establish and maintain social bonds likely had significant implications for our ancestors' survival. More specifically, our

ancestors who desired acceptance and were able to join social communities were also afforded basic resources necessary for survival such as better protection against rival tribes, more access to food sources, and significantly better odds of finding a mate than those who were left to fend for themselves (Baumeister & Leary, 1995; Buss, 1990). Because our need to belong is a fundamental need, it is not surprising that we may be especially sensitive to any social interaction that presents a threat to our belonging (e.g., rejection). For instance, some theorists believe that we have evolved detection systems that are sensitive and focused on what others think about us and can accurately detect when we are being rejected (e.g., Gilbert, 2007; Kerr & Levine, 2008; Pickett et al., 2004; Wesselmann et al., 2012). Such sensitivity to our social standing helps to explain why interpersonal rejection is a highly aversive (Leary, 2001; Nezlek et al., 1997) and painful experience (e.g., Eisenberger et al., 2003; MacDonald & Leary, 2005). Given the pain associated with rejection, and the benefits associated with feeling like we belong to a group, it is reasonable to believe that our need to belong is a fundamental need and that we are sensitive to anything that may threaten this need.

Sense of Belonging in Educational Contexts

Although belonging has been studied in various contexts within psychology (e.g., Maslow, 1962; Baumeister & Leary, 1995), considerable time and energy has been devoted to studying the importance of having and/or establishing a sense of belonging within educational settings. Within higher education, college students' sense of belonging refers to a perceived sense of social support, connectedness, acceptance, and an overall feeling of being valued by the campus community and/or specific individuals on campus (e.g., instructors, staff, peers; Strayhorn, 2019). A sense of belonging is an important component of students' educational experiences and has also been associated with a number of benefits. For example, a heightened

sense of belonging has been associated with improved retention rates (Han et al., 2017; Tovar et al., 2009), enhanced time management skills (Won et al., 2018), and heightened motivation and academic achievement (Walton & Cohen, 2007; Walton et al., 2012; Zumbrunn et al., 2014).

Focusing on motivation, Deci and Ryan (2000) argue that a perceived sense of belonging provides the motivational foundation for students to be able to internalize the information being presented in class settings, whereas a perceived lack of belonging is associated with reduced motivation and poor performance on assessments (see also Cohen & Garcia, 2008). Having a heightened sense of belonging also appears to extend beyond the classroom by benefiting students' emotional wellbeing. For instance, Lam et al. (2015) found that students with a greater sense of belonging tend to experience more positive emotions (as well as less negative emotions) in general, which, in turn, positively affected their academic achievement. Similarly, research has shown that a heightened sense of social belonging can help to improve underrepresented and marginalized students' health and academic outcomes (Walton & Cohen, 2011). For example, in a thorough review of the research on sense of belonging among marginalized college/university students, Strayhorn (2019) reported that students of color (e.g., Latinx students, Black students) tend to report less of a sense of belonging at predominately White institutions than do their White peers. However, positive and frequent contact with diverse peers can help improve marginalized students' sense of belonging and overall college experience (Strayhorn, 2008). Strayhorn (2019) also reported that gay men of color who feel like they do not belong at their college/university are more likely to engage in risky behaviors (e.g., uninhibited sexual relations) in order to fulfill their sense of belonging, whereas gay men of color who feel like they belong at their college/university are more likely to be high achievers and actively involved in student government. Further highlighting the importance of college students' sense of belonging,

marginalized students (e.g., students of color, FGCS) with a heightened sense of belonging tend to earn better grades, have higher self-esteem, and report overall greater satisfaction with their college experience than do their classmates who have a lower sense of belonging (Strayhorn, 2015, 2019).

Evidence suggests that FGCS may be especially susceptible to a diminished sense of belonging and its associated negative consequences (e.g., Gillen-O'Neel, 2021). For instance, research has shown that FGCS may experience a lack of belonging from their culture of origin, presumably because they are perceived as leaving their culture to pursue their educational goals (Oldfield, 2007; Rendon, 1992; Stebleton & Soria, 2013). Similarly, many FGCS also tend to experience a discrepancy between their culture of origin (e.g., collectivistic cultures), and the cultural orientation that is common in higher education (e.g., individualistic cultures; Stephens et al., 2012; Stephens et al., 2014). This "cultural mismatch" has been shown to negatively impact FGCS and results in more stress and other negative emotions for FGCS than CGCS (Stephens et al., 2012, pg. 1389). As such, it is important for research on FGCS to carefully assess the relationship between FGCS' cultural backgrounds and the extent to which they feel like they belong in higher education.

Some FGCS also appear to grapple with feelings of guilt for surpassing the accomplishments of their family members which, in turn, can have negative consequences for how these students adjust to college (Covarrubias & Fryberg, 2015). To combat these feelings of guilt, some FGCS may prioritize familial obligations, thus making it especially difficult for them to find the time necessary for social interactions and other campus engagements that can help with their sense of belonging within higher education (Stebleton et al., 2014; Williams & Ferrari, 2015). Similarly, some FGCS are less likely to interact with their instructors, classmates, and

peers than are CGCS (e.g., Engle & Tinto, 2008). Unfortunately, this is also likely to impair FGCS' overall sense of belonging in higher education (e.g., Means & Pyne, 2017).

Although students' sense of belonging has received considerable attention, the extent to which FGCS' perceived sense of belonging differs from CGCS' perceived sense of belonging has received relatively little attention and there are conflicting results. For instance, a recent investigation exploring sense of belonging among FGCS and CGCS Latinx undergraduates found that FGCS tended to report a lower sense of belonging compared to their CGCS counterparts (Dueñas & Gloria, 2020). However, another recent investigation found that FGCS had a marginally lower sense of belonging than CGCS, but this difference was not statistically significant (Gillen-O'Neel, 2021). More research is needed in order to further understand the potential differences between FGCS and CGCS in terms of their overall sense of belonging in higher education.

Due to the links between students' sense of belonging in higher education and their academic success and retention (Han et al., 2017), some educational researchers have attempted to better understand and, more importantly, assess students' sense of belonging. For instance, educational researchers have explored the ways in which students feel connected to their college/university by investigating constructs such as social connectedness (i.e., the sense of companionship and affiliation with others; Lee & Robins, 1995), relatedness (i.e., the extent to which we feel connected to others; Josselson, 1995), and mattering (i.e., the feeling that other people depend on us, are interested in us, and are concerned about what happens to us; Rosenberg & McCullough, 1981). Although these constructs have been studied separately and are similar to the concept of belonging, the term "sense of belonging" incorporates key aspects of these other constructs (e.g., social connection, others' concern for our wellbeing) and has

become an increasingly popular term used in studies assessing educational and related outcomes (see Slaten et al. 2018). Given the relative importance of students' sense of belonging to various indices of academic success including persistence, retention, and scholastic competence (Gummadam et al., 2016; Hausmann et al., 2007; Ma & Shea, 2019; O'Keeffe, 2013; Phinney & Haas, 2003), sense of belonging has received considerable research attention within K-12 settings. Indeed, results from such research has shown that greater sense of belonging is associated with higher grades (Pittman & Richmond, 2007), greater academic effort (Goodenow & Grady, 1993; Sanchez et al., 2005), greater appreciation of school work (Anderman, 2003), and increased attendance (Sanchez et al., 2005). Importantly, having a greater sense of belonging has been found to benefit children and adolescents both inside *and* outside the classroom. For example, a heightened sense of belonging has been found to be positively associated with measures of young students' persistence (Goodenow & Grady, 1993), achievement motivation (Ibanez et al., 2004), self-efficacy (McMahon et al., 2009), social acceptance (Freeman et al., 2007), and psychological well-being (Baskin et al., 2010; Slaten & Baskin, 2014).

The amount of research exploring the importance of college and university students' sense of belonging is far less than comparable research involving students within K-12 classrooms (Hurtado & Carter, 1997; Slaten et al., 2018). Despite this relative sparsity, there is evidence suggesting that a sense of belonging for college/university students may be just as important as a sense of belonging for younger students. Further, the severity of many of the barriers to academic success listed above (e.g., deficits in persistence, diminished engagement) may be lessened by better assessing and subsequently enhancing students' sense of belonging (e.g., Hausmann et al., 2007; Soria & Stebleton, 2012).

Assessing College/University Students' Sense of Belonging

Despite the evidence presented here supporting the importance of college/university students' (and especially underrepresented and marginalized students') sense of belonging, the manner in which college/university students' sense of belonging has been traditionally assessed has recently been called into question (see Slaten et al., 2018). Of the studies that have sought to explore college/university students' sense of belonging, researchers have tended to adapt measures developed for K-12 students (e.g., Psychological Sense of School Membership [PSSM]; Goodenow, 1993; sample item: "*Teachers here are not interested in people like me.*") or have elected to use ad hoc (multiple- or single-item) measures of undergraduates' sense of belonging (Slaten et al., 2018). In their review of how college/university students' sense of belonging has been assessed in the past, Slaten et al. (2018) argued that the main reason why many researchers have opted to either modify scales developed for younger individuals or create their own ad hoc measures of a sense of belonging is "because the literature is lacking a clearly defined, reliable, and valid measure" (pg. 635) for undergraduate participants. The PSSM (Goodenow, 1993) has frequently been modified for use with college and university participants by merely replacing the word "teachers" with "faculty members" in items on the questionnaire (e.g., Alkan, 2016; sample item: "*Faculty members here are not interested in people like me.*"). According to Slaten et al. (2018), simply replacing the word "teachers" with "faculty members" is problematic because scales that have been developed for K-12 samples are designed to be appropriate for this specific learning environment (e.g., highly structured schedule and approach to instruction, relatively small class sizes, frequent interactions with a small number of teachers). Therefore, adapting such scales for more complex college/university settings may negatively impact their reliability and validity (Slaten et al., 2018).

Rather than using measures developed for K-12 samples, some researchers (e.g., Hausmann et al., 2007; Strayhorn, 2008) have opted for ad hoc measures of belonging by clustering statements within various scales that appear thematically relevant to belonging, but were not developed to be aggregated as a single, psychometrically sound measure. In one study (Stebleton et al., 2014), the researchers used a single item from a multi-item questionnaire to assess undergraduates' sense of belonging. These strategies have come under scrutiny and are considered to be suboptimal given the importance and complexity of college/university students' sense of belonging (see Slaten et al., 2018). Given the problems associated with measures of college/university students' sense of belonging that (a) rely on scales adapted from measures developed for K-12 students, (b) are ad hoc scales pieced together from items selected from various measures, or (c) are single-item measures, it is fortunate that a recent attempt has been made to establish a reliable and valid measure of this construct.

Slaten and colleagues (2018) developed and validated the University Belonging Questionnaire (UBQ), a 24-item measure designed to assess the extent to which students feel like they belong at their college/university across three different domains: university affiliation, university support and acceptance, and faculty and staff relations. Recent investigations using the UBQ have demonstrated that students (but especially female students) who experience physical and/or sexual harassment on their college campus tend to experience a significant reduction in their overall sense of belonging which, in turn, is associated with an increase in these students' overall levels of stress, anxiety, and depression (Thompson et al., 2019). The UBQ has also been used to demonstrate that the extent to which female college athletes feel like they belong on campus is directly (and almost exclusively) related to their athletic experiences (Slaten et al., 2020). Finally, recent research using the UBQ has shown that, in general, distance students (i.e.,

students taking primarily online classes) tend to experience a relatively high level of a sense of belonging within their institution, and this sense of belonging is positively associated with their overall levels of satisfaction and intent to persist (Perez, 2020). Given the ever-increasing concern regarding student enrollment and retention at colleges and universities (for reviews see Banks & Dohy, 2019; Burke, 2019; Sneyers & Witte, 2018), psychometrically sound measures like the UBQ provide educational researchers with a valuable tool for assessing students' (and especially at risk students') sense of belonging and identifying various factors that may be helping (or hurting) the extent to which students feel like they belong in higher education.

Factors Associated with College/University Students' Sense of Belonging

Given the benefits of undergraduates who experience a heightened sense of belonging at their college/university (Gummadam et al., 2016; Hausmann et al., 2007; Ma & Shea, 2019; Phinney & Haas, 2003), it is not surprising that researchers have sought to identify on-campus experiences that encourage students' (and especially underrepresented and marginalized students') sense of belonging. Several on-campus experiences have been found to promote a sense of belonging including (a) interactions with a diverse group of peers (Strayhorn, 2008), (b) involvement in learning communities that build meaningful connections among students and teach them the skills they need to be successful in higher education (Browser & Dettinger, 1998; Engstrom, & Tinto, 2008; Priest et al., 2016; Saucier & Martens, 2015; Saucier et al., 2020; Svinicki & McKeachie, 2014), (c) involvement in campus organizations, recreational facilities, and team sports (Astin, 1999; Strayhorn, 2019), (d) enrollment in courses with relatively small class sizes (O'Brien, 2002), and (e) attending a college or university that has a positive campus climate that promotes racial and ethnic diversity (Booker, 2016; Green & Glasson, 2009; Hurtado & Carter, 1997; Stebleton et al., 2014).

Another factor that may be associated with undergraduates' sense of belonging at their college/university (and a factor especially relevant to the current investigation) involves instructors' behaviors that contribute to positive (or negative) interactions with their students. In addition to the factors addressed above, Strayhorn (2019) reported that positive instructor interactions are strongly correlated with increased student persistence and a heightened sense of belonging. However, negative interactions with instructors can have severe consequences on students' motivation, academic success, and sense of belonging (e.g., Komarraju et al., 2010; O'Keeffe, 2013; Wolf-Wendel et al., 2009). Taken together, these findings suggest that instructors can have a substantial impact (for better or worse) on the extent to which college/university students feel they belong in higher education.

The notion that positive instructor behaviors are likely to encourage students' academic motivation, class engagement, and sense of belonging (Kiefer et al., 2015; Strayhorn, 2019) may be especially true for FGCS. Research has shown that positive interactions with faculty can drastically increase FGCS' sense of belonging (Freeman et al., 2007; Means & Pyne, 2017) and persistence (Schreiner et al., 2011). In a series of one-on-one interviews, Means and Pyne (2017) found that FGCS tend to report a heightened sense of belonging following interactions in which their instructors were perceived as genuinely supportive, invested in their students' success, and willing to spend time with them outside of class. Such interactions also appear to increase FGCS' academic self-efficacy with several FGCS reporting more confidence in their academic abilities following these positive interactions (Means & Pyne, 2017).

As a further demonstration of the importance of instructors' behaviors during class on students' perceptions and outcomes, recent research has shown that instructors' subjective experiences within class are likely to "trickle down" and influence the subjective experiences of

their students (Saucier et al., in press). More specifically, Saucier et al. (in press) found that students' perceptions of their instructor's engagement were associated with their own engagement during class which, in turn, was positively associated with the students' performance on assessments of learning. Even seemingly unintentional instructor behaviors such as showing genuine interest in their own course and their students' learning was found to relate positively to the subjective experiences of their students and their overall level of success on assessments (Saucier et al., in press).

Although instructors who frequently display positive behaviors within their classes may promote higher levels of success and heightened senses of belonging in their students, the opposite, unfortunately, may also be true. According to O'Keeffe (2013), "a negative [student-instructor] relationship can have an immensely negative impact upon the motivation of a student" (pg. 608). Instructors who frequently display negative behaviors (e.g., disorganized class structure, belittling students, intimidating and/or unapproachable) may unintentionally, yet negatively impact their students' success and contribute to a diminished sense of belonging. In Means and Pyne's (2017) series of one-on-one interviews with FGCS, they found that FGCS are relatively unlikely to interact with instructors who present themselves as exceptionally busy and react to students' requests for additional assistance outside of class as a waste of their valuable time. For example, one of the students interviewed for the Means and Pyne (2017) study reported feeling upset after going to her instructor's office hours because, during the brief meeting, the instructor had commented on being extremely busy with writing a research paper and preparing for other courses she was teaching. According to Means and Pyne (2017), instructors "who signal their own busyness and stress, even when they were otherwise inviting of student interaction, made office hours or any additional time spent with students seem like a burden"

(pg. 919). Once again, Means and Pyne (2017) argue that FGCS may be especially susceptible to negative interactions with instructors because these students already tend to experience a fragile and easily threatened sense of belonging.

Given the ease at which students (but perhaps especially FGCS) may be likely to misinterpret and react negatively toward such common and unintentional instructor behaviors, more research systematically exploring the factors influencing students' perceptions of and anticipated responses to various instructor behaviors is needed. Prior research has shown that there are considerable barriers facing FGCS that are likely to negatively impact their college experiences (e.g., Engle, 2007; Ma & Shea, 2019; Stebleton & Soria, 2013). Research has also shown that instructors' behaviors can (and do) have a substantial impact on students' subjective experiences during class (Saucier et al., in press; Saucier et al., in preparation). Although it is reasonable to believe that students' generational status (i.e., being FGCS vs. CGCS) and/or the extent to which they feel like they belong in higher education is likely to influence how they perceive, and subsequently respond to various instructor behaviors, there is a paucity of research in this area. Further, given (a) the increasing rate at which FGCS are entering higher education, (b) the importance of students' sense of belonging to their overall success in higher education, and (c) the critical role instructors also play in this success (but perhaps especially for FGCS; Means & Pyne, 2017), it is important to more closely examine the extent to which students' generational status and/or sense of belonging (or lack thereof) may influence their perceptions of and anticipated responses toward instructors' positive, negative, or neutral behaviors. Therefore, the current investigation was designed to examine the differences between FGCS and CGCS in their perceptions of and anticipated responses to various instructor behaviors (Study 1) as well as the extent to which FGCS' *and* CGCS' sense of belonging may relate to their perceptions of and

anticipated responses to various instructor behaviors (Study 2). These studies provide insight into the extent to which students' generational status and overall sense of belonging relate to their perceptions of and anticipated responses to instructor behaviors that were positive, negative, or neutral. The rationale for these studies, the a priori hypotheses, the data collection methods, and the planned analytic strategies have been preregistered with the Center for Open Science (osf.io/mujd8).

Chapter 2 - Study 1

Study 1 examined the differences between FGCS and CGCS in terms of their perceptions of and anticipated responses to various instructor behaviors. As previously stated, there are certain behaviors that college/university instructors display that may impact (for better or worse) students' subjective experiences within the class which, in turn, may impact their students' overall success (e.g., Saucier et al., in press). Further, the subjective experiences of instructors "trickle down" and impact the subjective experiences and academic success of their students (see Saucier et al. in press). This has been recently demonstrated with positive instructor behaviors, negative instructor behaviors, and, to a lesser extent, neutral instructor behaviors (Saucier et al. in preparation). As such, Study 1 tested a *trickle down hypothesis* such that college/university students (i.e., FGCS *and* CGCS) would have negative perceptions of (and negative anticipated responses to) negative instructor behaviors, but would have positive perceptions of (and positive anticipated responses to) positive instructor behaviors.

It is important to recognize the possibility of an alternative outcome. Given that FGCS tend to experience considerable barriers to their success (e.g., financial barriers, diminished persistence, a lack of cultural/social capital) compared to the experiences of CGCS, FGCS may be especially susceptible to various instructor behaviors. Indeed, such an outcome would be consistent with the literature of differential susceptibility. As a theoretical framework, differential susceptibility argues that some individuals are not only more susceptible to the negative effects of adverse environmental conditions, they are also more susceptible to the positive effects of supportive environments (Belsky et al., 2007; Belsky & Pluess, 2009). Conversely, there are also other (i.e., nonsusceptible) individuals who are not influenced (or at least less influenced) by their positive and/or negative environments (e.g., Bakermans-

Kranenburg & Van IJZendoorn, 2007; Bakermans-Kranenburg & Van IJzendoorn, 2015; Belsky, 1997; Belsky et al., 2007; Ellis et al., 2011). Applying differential susceptibility theory to FGCS and CGCS, Study 1 also tested a competing *differential susceptibility hypothesis* which predicted that CGCS would be relatively unaffected by their environmental circumstances (i.e., positive, neutral, or negative instructor behaviors), but that historically at-risk students such as FGCS (e.g., Davis, 2010) would be especially susceptible to certain environmental circumstances (e.g., instructor behaviors) that are either positive or negative.

Method

Design

Study 1 used a 2 (Generational Status: First-Generation, Continuing-Generation) × 3 (Instructor Behavior: Positive Instructor, Neutral Instructor, Negative Instructor) between-groups design.

Participants[2]

A total of 202 undergraduate participants were recruited via email and the K-State SONA system. Of these students, 33 were removed for missing substantial data, 25 were removed for indicating that they knew (or have had a class with) the instructor featured in the remote teaching demonstration, and five were removed for finishing the study suspiciously fast (i.e., under eight minutes).[3] The remaining 139 participants (M_{age} = 21.20; SD_{age} = 5.67) were predominately female (72.7%), Caucasian (68.3%), and first-year students (41%). Further, of these 139 participants, 75 were labeled as FGCS (i.e., parents or legal guardians have not earned a four-year degree; e.g., Davis, 2010; Townsend et al., 2019), 63 were labeled as CGCS (i.e., at least one of their parents or legal guardians have earned a four-year degree), and one participant

elected not to disclose this information (see Table 1 for a complete breakdown of the demographic information between FGCS and CGCS in Study 1).

Materials

Demographics Questionnaire.

Consistent with prior research involving FGCS (e.g., Engle, 2007; Hausmann et al., 2007; McCarron & Inkelas, 2006; Pascarella et al., 2004; Townsend et al., 2019), a wide array of demographic variables were assessed. For example, participants were asked to report their gender, age, race/ethnicity, and their parents' educational background. Participants were also asked to self-disclose personal information such as their grade level, whether they are transfer students, involvement in college preparation programs, whether they have any military experience, the number of credit hours they are currently taking, employment status, involvement in on-campus organizations, housing situation, religious denomination, place of birth, hometown descriptions, SES (e.g., their estimated annual household income), marital status, and whether or not they have children (see Appendix A for a complete list of the demographic variables that were assessed).

Cultural Orientation Scale.

As previously discussed, research has shown that it is common for FGCS to come from more collectivistic cultures and experience a "cultural mismatch" in higher education, which tends to be more individualistic (e.g., Stephens et al., 2012; Stephens et al., 2014). Therefore, the current investigation also assessed students' (i.e., FGCS' *and* CGCS') cultural orientation and how it may relate to their perceptions of an anticipated responses toward various instructor behaviors. In order to assess the extent to which participants' come from individualistic versus collectivistic cultural backgrounds, Triandis and Gelfand's (1998) Cultural Orientation Scale

(COS) was used. The COS is a 16-item scale and has been designed to measure four distinct dimensions of collectivism and individualism. More specifically, four items assess Vertical Collectivism (VC; i.e., the extent to which individuals see themselves as part of a collective, and possess a willingness to accept hierarchies within that collective), four items assess Vertical Individualism (VI; i.e., the extent to which individuals see themselves as fully autonomous, but aware that hierarchies and inequality exist among individuals), four items assess Horizontal Collectivism (HC; i.e., the extent to which individuals see themselves as part of a collective, but perceive all members within that collective as equals), and four items assess Horizontal Individualism (HI; i.e., the extent to which individuals see themselves as fully autonomous, and believe the equality among individuals exists). Participants indicated how much they agree (or disagree) with each of these items using a 9-point Likert-type scale ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*). Participants' responses to each of these items were aggregated separately to create a single score for VC ($\alpha = .60$), VI ($\alpha = .65$), HC ($\alpha = .67$), and HI ($\alpha = .68$) with higher scores indicating more agreement toward a given dimension of the cultural orientation scale (see Appendix B for the complete COS).

Teaching Demonstrations.

Inspired by Saucier et al. (in preparation), three different teaching demonstrations were recorded. More specifically, a single instructor was recorded lecturing on the same material (i.e., *General Psychology*) across the three videos, but the specific behaviors that were displayed in each video were varied such that in one video the instructor modeled positive instructor behaviors (e.g., friendly/conversational tone, willingness to share personal experiences), in another video the instructor modeled negative instructor behaviors (e.g., annoyed with and dismissive of students' questions, overall unwilling to work with students), and in the final video

the instructor modeled neutral instructor behaviors (e.g., monotone expression, no additional information and/or comments beyond lecture material). Importantly, the positive, negative, and neutral behaviors that were intentionally displayed in these videos were derived, in part, from a series of one-on-one structured interviews that were conducted during a qualitative pilot study with 10 FGCS. Participants in this qualitative pilot study were asked to think of and describe interactions with their instructors that were especially positive (e.g., excited about teaching that class, tendency to use real-world examples, willingness to share personal experiences), especially negative (e.g., tendency to use highly technical jargon, belittles the students, overly arrogant), or neutral (e.g., low energy level, no apparent enthusiasm about the content of the course). Such positive, negative, and neutral behaviors are also consistent with related, and more quantitative investigations on the effectiveness of various instructor behaviors (e.g., Kastens et al., 2019; Mills et al., 2017; Saucier, 2019).

The videos featuring the positive instructor behaviors, neutral instructor behaviors, and negative instructor behaviors each depicted the principal investigator as the instructor of record as he ostensibly delivered a remote lecture for a *General Psychology* class via Zoom.[4] Given our recent transition to remote learning platforms in response to the COVID-19 pandemic, this strategy was ideal in that it allowed for the development of a believable cover story. For example, participants involved in the current investigation were told that they were evaluating the recorded presentation of one of numerous instructors' remote courses in order to assess undergraduates' perceptions of instructors' approaches to remote teaching (See Appendix C for the cover story that was provided to the participants). This strategy of telling participants that a random, remote class was recorded allowed for the current investigation to realistically present

on course policies *and* begin lecturing on course-related material (See Appendix D for a link to each of these videos).[5]

Manipulation Check.

Similar to the quantitative pilot study reported in Footnote 5, participants in this study were asked to respond to two different items designed to assess participants' perceptions of the instructor demonstrations, and overall effectiveness of the manipulation of these ostensible teaching demonstrations. After viewing the remote teaching demonstrations, participants were first asked to rate how they would "describe this instructor's teaching style" using a 1 (*Very Negative*) to 9 (*Very Positive*) Likert-type scale. Participants were also asked to choose the one word that would best describe the instructor's teaching styles and behaviors and could select either "*Positive*", "*Negative*," or "*Neutral*."[6]

Information Retention and Understanding.

In order to assess participants' retention and understanding of the information presented in the remote teaching demonstrations, a brief quiz—similar to what students would take in an actual class—was developed. More specifically, after viewing the remote teaching demonstration, participants were asked to answer ten multiple choice questions on the information (e.g., policies, course content) presented in the teaching demonstrations (see Appendix E for a complete version of this brief assessment). Participants' earned a "point" for each question they answered correctly, and the number of points they earned was summed. As such, participants could earn between zero and ten points depending on the number of questions they answered correctly. This quiz was ultimately included to assess whether undergraduates' (i.e., FGCS and CGCS) performance on a given assessment would vary as a function of their instructor's behaviors. The expected pattern of results for this quiz was that students in the

Positive Instructor condition would perform better on this assessment than students in the Neutral Instructor condition who, in turn, would perform better than the students in the Negative Instructor condition.

Instructor Opinion Survey.

In order to assess participants' attitudes toward and perceptions of the various instructors described above, they were asked to respond to a series of statements adapted from Saucier et al. (in preparation). These statements were designed to assess undergraduates' (a) favorable and unfavorable perceptions of the instructor's characteristics (18 and 16 items, respectively; e.g., *"I believe this instructor is enthusiastic."*, *I believe this instructor is uncomfortable."*, respectively), (b) anticipated likelihood of interacting with the instructor (7 items; e.g., *"I would be comfortable asking questions during this instructor's class."*), (c) perceptions of the instructor's policies (6 items; e.g., *"I understand this instructor's policies."*, *"I would be comfortable asking this instructor about his policies."*), (d) general attitudes and expectations (23 items; e.g., *"I think I would do well academically in this instructor's class.", "I think I would be able to relate to this instructor."*), and (e) perceived engagement (8 items; e.g., *"This instructor is able to engage students during class."*). Participants indicated how much they agreed (or disagreed) with each of these statements using 9-point Likert-type scales ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*) with higher scores indicating more favorable perceptions of and anticipated responses to the instructor (see Appendix F for a complete list of items used in the Instructor Opinion Survey). These items were aggregated to create single composite scores for favorable perceptions ($\alpha = .97$), unfavorable perceptions ($\alpha = .94$), perceived likelihood of interacting with the instructor ($\alpha = .96$), perceptions of the instructor's policies ($\alpha = .90$), general attitudes and expectations ($\alpha = .97$), and perceived engagement ($\alpha = .98$).

Procedure

Undergraduate participants were recruited via the Kansas State University SONA system, a mailing list of all currently enrolled FGCS (obtained from the Kansas State Office of Institutional Research and Assessment), and other online avenues (e.g., Facebook). Undergraduates who chose to participate in the present study did so using the online survey software, Qualtrics. After they provided informed consent (see Appendix G for a sample Informed Consent form) and reported their demographic information, participants were first asked to complete the COS. Participants were then randomly assigned to one of three possible conditions wherein they viewed a remote teaching demonstration featuring an instructor displaying positive behaviors, neutral behaviors, or negative behaviors (hereafter referred to as the Positive Instructor, Neutral Instructor, or Negative Instructor, respectively). After watching their randomly assigned remote teaching demonstration, participants then completed a brief manipulation check and were then asked to rate their perceptions of and attitudes toward the instructor they just viewed by completing the Instructor Opinion Survey. After completing this survey, the participants were debriefed and thanked for their participation (see Appendix H for a sample debriefing statement). Participants recruited from the K-State SONA system were granted course credit upon completion of this study, whereas participants recruited from the FGCS mailing list were provided with an opportunity to self-disclose their contact information in order to be entered into a raffle to win one of ten $100 gift cards to a major grocery store chain (e.g., Kroger).[7]

Results and Discussion

Preliminary Analyses

The means and standard deviations for, and the zero-order correlations among select demographic variables and all dependent variables are provided in Table 3. Consistent with prior research (e.g., Engle, 2007), FGCS in Study 1 were less likely to have participated in college preparation programs while in high school, tended to enroll in fewer credit hours, worked more hours outside of school, and came from a significantly lower SES than their CGCS counterparts. Being a FGCS was also associated with Horizontal Individualism (HI), meaning FGCS in Study 1 tended to agree more strongly that they see themselves as fully autonomous individuals and believe that equality among individuals exists than did CGCS. Although counter to prior research that suggests FGCS tend to come from collectivistic homes (e.g., Burgos-Cienfuegos et al., 2015; Vasquez-Salgado et al., 2015), it would make sense that FGCS in the present study would be likely to view themselves as autonomous individuals given that FGCS are often forced to figure out how to be a college student on their own due to their relative lack of cultural and/or social capital compared to CGCS.[8] This unexpected finding may also suggest that individuals who enroll in higher education may tend to be more individualistic and autonomous compared to their family members who did not enroll in higher education. Although beyond the scope of the current investigation, future research should explore potential differences in cultural orientation among those who pursue, or choose not to pursue, higher education.

The results of the zero-order correlations in Table 3 also highlight the robust relationships between the participants' perceptions of the remote instructor's teaching style and each of the dependent variables. More specifically, the more favorably participants rated the remote instructor's teaching style, the better they performed on the quiz designed to assess the

participants' retention and understanding of information presented in the video, the more favorably they perceived the instructor and his policies, the more likely they were to anticipate interacting with the instructor, the more favorable their general attitudes and expectations, and the more strongly they agreed that they were engaged during the remote teaching demonstration. The extent to which instructor behaviors influenced the participants' perceptions and anticipated responses is more thoroughly explored below.

Manipulation Check

In order to assess the effectiveness of the manipulation of the different instructor behaviors (i.e., Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) a manipulation check was first computed by calculating the frequency of participants' ratings of the one word they would use to describe the instructor they viewed. Similar to the manipulation check reported in Footnote 5, 72% of the participants in the Positive Instructor condition rated the instructor as positive, 56% of the participants in the Neutral Instructor condition rated the instructor as neutral, and 83% of the participants in the Negative Instructor condition rated the instructor as negative. Further, when asked to rate the remote instructor's teaching style on a 1 (*Very Negative*) to 9 (*Very Positive*) scale, participants in the Positive Instructor condition assigned the instructor an average rating of 7.50 (SD = 1.52), whereas participants in the Neutral and Negative Instructor conditions assigned these instructors an average rating of 4.38 (SD = 1.55) and 1.95 (SD = 1.69), respectively. Taken together, these results suggest that the manipulation of instructor behaviors worked as intended.

Analyzing the Influence of Generational Status and Instructor Behaviors on Participants' Perceptions of and Anticipated Responses to the Remote Instructor

In order to assess the extent to which FGCS and CGCS may differ in their perceptions of and anticipated responses to various instructor behaviors, a 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behavior: Positive Instructor, Neutral Instructor, Negative Instructor) between-groups MANOVA was conducted with Generational Status and Instructor Behaviors as the independent variables and favorable and unfavorable perceptions, perceived likelihood of interacting with the instructor, perceptions of the instructor's policies, general attitudes and expectations, perceived engagement, and information retention as the dependent variables. A statistically significant Box's *M* test ($p = .01$) indicated inequality of variance-covariance matrices of the dependent variables across levels of the independent variables. Following the recommendations made by Meyers et al. (2012), Pillai's trace was used to evaluate the multivariate effects.

Using Pillai's trace as the criterion, the multivariate interaction effect of Generational Status × Instructor Behavior was not statistically significant, Pillai's Trace = 0.11, F (14, 254) = 1.10, $p = 0.36$. Such findings are counter to the *differential susceptibility hypothesis* (i.e., FGCS will be more susceptible to their instructors' various behaviors than will CGCS) and suggest that FGCS are no more susceptible to positive, neutral, or negative instructor behaviors than are their CGCS counterparts. Similarly, the multivariate main effect of Generational Status was not statistically significant, Pillai's Trace = 0.05, F (7, 126) = 0.86, $p = 0.54$. However, the multivariate main effect of Instructor Behavior was statistically significant, Pillai's Trace = 0.94, F (14, 254) = 16.23, $p < .001$. Still following Meyers et al.'s (2015) recommendations, this

significant multivariate main effect was probed by conducting separate one-way ANOVAs (see Table 4).

As presented in Table 4, participants reported more favorable perceptions of the Positive Instructor than the Neutral Instructor who, in turn, was perceived more favorably than the Negative Instructor. Similarly, participants reported being more likely to interact with the Positive Instructor than the Neutral Instructor, but also more likely to interact with the Neutral Instructor than the Negative Instructor. Participants also reported more favorable perceptions of the instructor's policies as well as more favorable general attitudes and expectations toward the Positive Instructor than the Neutral Instructor who, in turn, was again rated more favorably than the Negative Instructor. Finally, participants tended to agree more strongly that the Positive Instructor was significantly more engaging than both the Neutral and Negative Instructors. Consistent with this finding, participants in the Positive Instructor condition performed better on the brief quiz that was designed to assess their retention and understanding of the information presented in the teaching demonstration than did participants in the Neutral and Negative Instructor conditions.

Summary of Study 1

Overall, this pattern of results provides substantial evidence for the *trickle down hypothesis.* More specifically, these data suggest that undergraduates, regardless of generational status, respond more favorably to positive instructor behaviors than to neutral and/or negative instructor behaviors. Further, these data also suggest that undergraduates, still regardless of generational status, generally respond more favorably to neutral instructor behaviors than to negative instructor behaviors. Indeed, such findings are consistent with Saucier et al.'s (in press) research showing that the behaviors instructors' display during class are likely to "trickle down"

and impact the subjective experiences of their students as well as students' performance on assessments. However, the present study is among the first to demonstrate this pattern of results for instructor behaviors that are positive, neutral, *and* negative. Although much of the research on Saucier et al.'s (in press) trickle down model has tended to focus on the positive instructor behaviors that are likely to enhance students' subjective experience and performance on assessments, not all instructor behaviors are likely to be perceived as positive. Indeed, there are many instructors who are likely to engage in everyday behaviors that are likely to be perceived as neutral (i.e., neither positive nor negative) or negative by their students. Given that the current pattern of results clearly shows that such behaviors can have deleterious effects on undergraduates' perceptions of and anticipated responses to their instructors, additional efforts should be made to better identify the instructor behaviors that negatively, and hopefully unintentionally, impact the subjective experiences of our students.

The results from Study 1 also have considerable implications for undergraduates' academic success. Consistent with prior research (e.g., Gutierrez et al., 2018; Reyes et al., 2012; Robinson & Gahagan, 2010; Saucier et al., in press; Upadyaya & Salmelo-Aro, 2013), the pattern of results for Study 1 suggest that the more strongly participants agreed that they were engaged in the remote teaching demonstration, the better they performed on the corresponding assessment. This pattern of results is comforting given that the global COVID-19 pandemic has caused many instructors across thousands of colleges and universities to transition to remote teaching modalities, often with little training or advanced notice (e.g., Johnson et al., 2020; Silva de Souza et al., 2020; Sunasee, 2020). Many instructors during this time have expressed concerns regarding their students' learning and/or performance on various assessments (e.g., Garcia-Penalvo et al., 2021; Kuhfeld et al., 2020). The pattern of results from the current study suggest

that instructors should try to intentionally incorporate positive behaviors during their remote classes. More specifically, the results from Study 1 suggest that such behaviors are likely to "trickle down" and positively influence the overall engagement of their students as well as potentially improve their students' performance on remote assessments.

Chapter 3 - Study 2

Although the *differential susceptibility hypothesis* was not supported in Study 1, additional research is needed to more closely examine how students' (i.e., FGCS and CGCS) overall sense of belonging may be influencing their perceptions of various instructors' behaviors. This was the goal of Study 2. More specifically, Study 2 sought to first replicate the results from Study 1 as well as also extend above and beyond Study 1 by examining (a) the extent to which FGCS and CGCS may differ in the extent to which they feel like they belong in higher education and (b) how these students' overall sense of belonging may relate to their perceptions and anticipated responses to various instructor behaviors.

Such an extension is necessary to be able to systematically assess the interaction between students' generational status *and* overall sense of belonging on their perceptions of and anticipated responses to various instructor behaviors. Although students' generational status did not impact their perceptions of and anticipated responses to various instructor behaviors in Study 1, these effects may be superseded by the extent to which students feel like they belong in higher education. Research investigating the extent to which students' sense of belonging may impact their perceptions of and subsequent responses to various instructor behaviors is needed because it is likely that many instructors frequently engage in positive behaviors that help to enhance the subjective experiences of those who feel like they do not belong. There may also be instructors who engage in unintentionally negative behaviors that exacerbate students' feelings that they do not belong, and consequently increase the likelihood that they will fail to persist, regardless of the students' generational status. Therefore, it is important for research to systematically assess if students' overall sense of belonging influences their perceptions of and anticipated responses toward various instructors' behaviors, above and beyond their generational status. As such,

Study 2 sought to explore the extent to which students' (i.e., FGCS *and* CGCS) sense of belonging impacts their perceptions of and anticipated responses toward instructor behaviors that are positive, neutral, or negative.

Similar to Study 1, there were two competing hypotheses for Study 2. More specifically, there was again a *trickle down hypothesis* which predicted that college/university students, regardless of their sense of belonging, will have more negative perceptions of (and negative anticipated responses to) negative instructor behaviors, but will have more positive perceptions of (and positive anticipated responses to) positive instructor behaviors. Alternatively, there was also a competing *differential susceptibility hypothesis* which predicted that students with an enhanced sense of belonging, regardless of their generational status, will be relatively unaffected by their environmental circumstances (i.e., positive, neutral, or negative instructor behaviors). However, at risk students such as FGCS (and, to a lesser extent, perhaps some CGCS) with a diminished sense of belonging may be especially susceptible to certain environmental circumstances (e.g., instructor behaviors) that are positive or negative.

Method

Design

Study 2 used a 2 (Generational Status: First-Generation, Continuing-Generation) × 3 (Instructor Behavior: Positive Instructor, Neutral Instructor, Negative Instructor) × Continuous (Overall Sense of Belonging) between-groups design.

Participants

A total of 204 undergraduate participants were recruited via email and the K-State SONA system. Of these students, 48 were removed for missing substantial data, 22 were removed for indicating that they knew (or have had a class with) the instructor featured in the remote teaching

demonstration, and three were removed for finishing the study suspiciously fast (i.e., under eight minutes; see Footnote 3). The remaining 131 participants (M_{age} = 21.50; SD_{age} = 6.48) were predominately female (74.6%), Caucasian (77.9%), and first-year students (42.7%).[9] Of these 131 participants, 68 were labeled as FGCS and 63 were labeled as CGCS (please see Table 5 for a complete breakdown of the demographic information between FGCS and CGCS in Study 2).

Materials

Similar to Study 1, Study 2 used the same demographics questionnaire, cultural orientation scale (i.e., VC α = .67; VI α = .67; HC α = .65; HI α = .60), remote teaching demonstrations, manipulation checks, quiz to assess participants' information retention and understanding, and instructor opinion survey. Participants' responses to the instructor opinion survey were again aggregated to create single composite scores for favorable perceptions (α = .96), unfavorable perceptions (α = .95), perceived likelihood of interacting with the instructor (α = .97), perceptions of the instructor's policies (α = .93), general attitudes and expectations (α = .97), and perceived engagement (α = .98).

Sense of Belonging.

Participants' sense of belonging at Kansas State University was assessed using a modified version of the University Belonging Questionnaire (UBQ; Slaten et al., 2018). The original UBQ (α = .94) is a reliable and valid measure that consists of 24 items designed to assess students' sense of university belonging along three subscales. More specifically, the UBQ consists of 12 items that measure "University Affiliation" (α = .92), or the extent to which students associate their personal identity with their university (e.g., "*I take pride in wearing my university's colors.*"); eight items that measure "University Support and Acceptance" (α = .85), or the extent to which students experience a sense of support and acceptance from their

university (e.g., "*I believe there are supportive resources available to me on campus.*"); and four items that measure "Faculty and Staff Relations" (α = .88), or the extent to which students have a sense of connection to their instructors (e.g., "*I believe that a faculty/staff member at my university cares about me*."). Given that the current investigation was interested in exploring students' sense of belonging and their perceptions of their instructors' behaviors, the "Faculty and Staff Relations" subscale of the UBQ was renamed "Instructor Relations" and the four original items were modified slightly (e.g., "*I believe that one or more of my instructors at my university cares about me.*"). The UBQ was further modified by incorporating thematically relevant items from Hoffman et al.'s (2002) Sense of Belonging Questionnaire. More specifically, four items related to "University Support and Acceptance" (e.g., "*No one at my university knows anything personal about me.*") and nine items related to "Instructor Relations" (e.g., "*I would feel comfortable seeking help from one or more of my instructors before or after class.*") were borrowed from Hoffman et al.'s (2002) measure and added to the present study. Overall, the modified UBQ consisted of 37 items with 12 items assessing "University Affiliation", 12 items assessing "University Support and Acceptance", and 13 items assessing "Instructor Relations" (see Appendix I). Participants rated the extent to which they agreed (or disagreed) with each of these items using 9-point Likert-type scales ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*). Participants' responses to the modified UBQ were aggregated to create an Overall Sense of Belonging score (α = .96). Further, participants' responses to each of the three subscales were also separately aggregated to create composite scores for University Affiliation (α = .94), University Support and Acceptance (α = .88), and Instructor Relations (α = .96). For each of these scores, higher scores indicate a greater sense of belonging along each of these dimensions.[10]

Procedure

Undergraduate participants were again recruited via the Kansas State University SONA system, a mailing list of all currently enrolled FGCS (obtained from the Kansas State Office of Institutional Research and Assessment), and other online avenues (e.g., Facebook). Undergraduates who chose to participate in the present study did so using the online survey software, Qualtrics. After they provided informed consent and reported their demographic information, participants were first asked to complete the COS and the modified UBQ. Similar to Study 1, participants were then randomly assigned to one of three possible conditions wherein they viewed a remote teaching demonstration featuring a Positive Instructor, Neutral Instructor, or Negative Instructor. After watching their randomly assigned remote teaching demonstration, participants then completed a brief manipulation check and were then asked to rate their perceptions of and attitudes toward the instructor they just viewed by completing the Instructor Opinion Survey. After completing this survey, the participants were debriefed and thanked for their participation. Participants recruited from the K-State SONA system were again granted course credit upon completion of this study, whereas participants recruited from the FGCS mailing list were again provided with an opportunity to self-disclose their contact information in order to be entered into a raffle to win one of ten possible $100 gift cards to a major grocery store chain (e.g., Kroger).

Results and Discussion

Preliminary Analyses

As in Study 1, the means and standard deviations for, and the zero-order correlations among select demographic variables, all dependent variables, and students' overall sense of belonging are provided in Table 6. Similar to Study 1, FGCS in Study 2 were less likely to have

participated in college preparation programs while in high school, tended to enroll in fewer credit hours, worked more hours outside of school, and came from a significantly lower SES than their CGCS counterparts. Still consistent with Study 2, first-generation status was again associated with Horizontal Individualism (HI), meaning FGCS in Study 2 tended to agree more strongly that they see themselves as fully autonomous individuals and believe that equality among individuals exists than CGCS.[11] It is noteworthy that these correlations (as well as those from Study 1) were highly consistent with the extant literature. For instance, previous research has shown that FGCS tend to be less likely to have participated in college preparation programs (e.g., Bryant & Nicolas, 2011; Martinez et al., 2009; Riehl, 1994; Wahleithner, 2020), tend to enroll in fewer credit hours (e.g., Garcia, 2010; Nomi, 2005; Pascarella et al., 2004), work more hours outside of school (e.g., Broton et al., 2016; Engle, 2007; Lundberg et al., 2007; Pascarella et al., 2004; Pratt et al., 2019), and come from lower SES backgrounds (e.g., Beattie, 2018; Engle, 2007) than their CGCS counterparts. Taken together, these results confirm that the demographics of the FGCS who participated in the current investigation are consistent with what has been commonly reported in the literature.

The results of the zero-order correlations in Table 6 again highlight the robust relationships between the participants' perceptions of the remote instructor's teaching style and the dependent variables. More specifically, the more favorably participants rated the remote instructor's teaching style, the more favorably they perceived the instructor and his policies, the more likely they were to anticipate interacting with the instructor, the more favorable their general attitudes and expectations were toward the instructor, and the more strongly they agreed that they were engaged during the remote teaching demonstration. Unlike Study 1, however, participants' ratings of the remote instructor's teaching style were *not* associated with their

performance on the quiz to assess their retention and understanding of information presented in the video. Despite this minor inconsistency between the zero-order correlations from Studies 1 and 2, the correlations among the variables from Study 2 generally replicated the pattern of results from Study 1.

Unique to Study 2, participants' overall sense of belonging was significantly associated with several variables. For instance, the results presented in Table 6 show that participants' overall sense of belonging was associated with previous experiences in college preparation programs.[12] This finding suggests that undergraduates who participated in college preparation programs are more likely to experience a greater overall sense of belonging once in college than their peers who have no college preparation experiences. The results presented in Table 6 also show that having an enhanced overall sense of belonging is associated with enrolling in more credit hours and having a higher SES background. Interestingly, participants who had an enhanced overall sense of belonging also tended to agree more strongly that they are part of a collective, but especially within a collective wherein all members have equal status. Given that sense of belonging refers to undergraduates' tendency to believe that they are accepted/valued by and connected with other individuals and/or communities on campus (e.g., Strayhorn, 2019), it makes sense that the more undergraduates feel like they belong, the more they would agree that they are part of a collective community. Finally, the more participants felt like they belong in higher education, the more favorably they tended to perceive their instructors, the more likely they were to anticipate interacting with their instructors, the more favorably they perceived their instructor's policies, the more favorable their overall attitudes and expectations were, and, perhaps more importantly, the more they reported being engaged by their instructors.

Taken together, the results from these zero-order correlations clearly demonstrate the relationship between undergraduates' overall sense of belonging in higher education and a number of other positive factors. Such findings are consistent with prior correlational studies. For example, a recent investigation on undergraduates' sense of belonging found that the more students felt like they belong in higher education, the higher they perceived their own academic self-efficacy to be, the more they reported being engaged in class, the more positive their feelings were toward school, the more they would anticipate engaging in help-seeking behaviors, and the less they would procrastinate in their academics (Gillen-O'Neel, 2020). The results from the current investigation add to the extant literature and provide further evidence concerning the numerous benefits associated with students' sense of belonging.

Manipulation Check

In order to assess the effectiveness of the manipulation of the different instructor behaviors (i.e., Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) a manipulation check was again computed using the same analyses reported in Study 1. Results from these analyses show that 83% of the participants in the Positive Instructor condition rated the instructor as positive, 49% of the participants in the Neutral Instructor condition rated the instructor as neutral, and 86% of the participants in the Negative Instructor condition rated the instructor as negative. Further, when asked to rate the remote instructor's teaching style on a 1 (*Very Negative*) to 9 (*Very Positive*) scale, participants in the Positive Instructor condition assigned the instructor an average rating of 7.44 (SD = 1.43), whereas participants in the Neutral and Negative Instructor conditions assigned these instructors average ratings of 3.77 (SD = 1.78) and 1.92 (SD = 1.63), respectively. These results again suggest that the current manipulation worked as intended.

Study 1 Replication Analyses

To test if these results replicated the results in Study 1 and to assess the extent to which FGCS and CGCS may differ in their perceptions of and anticipated responses to various instructor behaviors, a 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behavior: Positive Instructor, Neutral Instructor, Negative Instructor) between-groups MANOVA was again conducted. Consistent with Study 1, Generational Status and Instructor Behaviors were entered as independent variables, and favorable and unfavorable perceptions, perceived likelihood of interacting with the instructor, perceptions of the instructor's policies, general attitudes and expectations, perceived engagement, and information retention were entered as dependent variables. A statistically significant Box's *M* test ($p < .001$) indicated inequality of variance-covariance matrices of the dependent variables across levels of the independent variables. As such, Pillai's trace was again used in Study 2 to evaluate the multivariate effects (see Meyers et al., 2012).

Using Pillai's trace as the criterion, the multivariate interaction effect of Generational Status × Instructor Behavior was not statistically significant, Pillai's Trace = 0.13, F (14, 240) = 1.16, $p = 0.31$. Such findings are consistent with those from Study 1 and are again counter to the *differential susceptibility hypothesis.* More specifically, this pattern of results again suggests that FGCS are no more susceptible to positive, neutral, or negative instructor behaviors than are their CGCS counterparts. Unlike Study 1, the multivariate main effect of Generational Status was statistically significant, Pillai's Trace = 0.14, F (7, 119) = 2.87, $p = 0.008$. However, when this significant multivariate main effect was probed by conducting separate one-way ANOVAs (Meyers et al., 2015), there were no significant univariate effects for Generational Status (see Table 7). That the exact effect of Generational Status cannot be confidently identified presents a

potential interpretive problem. A possible explanation for this incongruence could be that there is a suppression effect such that Generational Status does not produce a significant effect in the univariate analyses, but is a significant variable in the multivariate, linear equation (e.g., Conger, 1974; Smith et al., 2020). The general lack of significant univariate effects for Generational Status in Study 2 appears to somewhat replicate the pattern of results from Study 1.

Still similar to Study 1, the pattern of results for multivariate main effect of Instructor Behaviors generally replicated in Study 2. More specifically, the multivariate main effect of Instructor Behavior was again statistically significant, Pillai's Trace = 1.03, F (14, 240) = 18.20, $p < .001$. Following the recommendation by Meyers et al. (2015), this significant multivariate main effect was probed by conducting separate one-way ANOVAs (see Table 8). As presented in Table 8, participants reported more favorable perceptions of the Positive Instructor than of the Neutral and Negative Instructors. However, participants also reported more unfavorable perceptions of the Negative Instructor than of the Neutral Instructor, but also more unfavorable perceptions of the Neutral Instructor than of the Positive Instructor. Similar to Study 1, participants again reported being more likely to interact with the Positive Instructor than with the Neutral Instructor, but also more likely to interact with the Neutral Instructor than with the Negative Instructor. Participants also again reported more favorable perceptions of as well as more favorable general attitudes and expectations toward the Positive Instructor than toward the Neutral Instructor who, in turn, was again rated more favorably than was the Negative Instructor. Finally, participants tended to agree more strongly that the Positive Instructor was significantly more engaging than were both the Neutral and Negative Instructors. Unlike Study 1, however, there were no significant differences across the three conditions in participants' performance on the brief quiz.

Overall, the similarities in the pattern of results for Instructor Behavior across Studies 1 and 2 provide additional support for the *trickle down hypothesis*. The results from these two studies clearly show that the behaviors instructors display in the classroom are likely to "trickle down" and impact the subjective experiences of their students. More specifically, the results from both Study 1 and Study 2 suggest that the positive behaviors instructors display in the classroom are likely to enhance the subjective experiences of students, whereas the negative (and, to a lesser extent, neutral) behaviors instructors display are likely to prompt negative student perceptions and anticipated responses.

Although the results from Study 2 are generally consistent with the results from Study 1, there is one effect in Study 2 that failed to replicate. As presented in Table 8, there were no significant differences in how students performed on the assessment across the three conditions. This lack of effect is especially surprising given that students' perceived engagement was consistent across the two studies such that students in the Positive Instructor condition rated their perceived engagement significantly higher than students in either the Neutral or Negative Instructor conditions. Indeed, prior research has consistently shown strong, positive correlations between students' self-reported engagement and their performance on various forms of assessment (e.g., Carini et al., 2006; Greene, et al., 2004; Pekrun & Linnenbrink-Garcia, 2012; Saucier et al., in press). Therefore, it was reasonable to expect that, across both studies, participants in the Positive Instructor condition would have also consistently performed better on the corresponding assessment than participants in the Neutral and/or Negative Instructor conditions. Given the considerable impact instructors' behaviors can have on their students' subjective experiences, additional research is needed to more closely examine the relationship between instructors' in-class behaviors and students' performance on assessments.

Analyzing the Influence of Generational Status, Instructor Behaviors, and Overall Sense of Belonging on Participants' Perceptions of and Anticipated Responses to the Remote Instructor[13]

As previously discussed, there were two competing hypotheses for Study 2—a *trickle down hypothesis* and a *differential susceptibility hypothesis*. The *trickle down hypothesis* predicted that college/university students, regardless of their sense of belonging, would respond favorably to positive instructor behaviors, but unfavorably to negative instructor behaviors. Alternatively, the *differential susceptibility hypothesis* predicted that students with an enhanced overall sense of belonging, regardless of their generational status, would be relatively unaffected by the various instructor behaviors. However, students with a diminished sense of belonging (including both FGCS and CGCS) would be especially susceptible to the various instructor behaviors. To test these hypotheses, a series of 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVAs were computed using the GLM macro in Jamovi for each of the seven dependent variables (see Table 9 for a general summary of the following main effects, two-way interactions, and three-way interactions).[14]

Positive Perceptions of the Instructor.

As presented in Table 10, the overall model testing the main effects of and interactions among Generational Status, Instructor Behaviors, and Overall Sense of Belonging on participants' positive perceptions of the instructor was statistically significant, $F(11, 130) = 18.66$, $p < .001$, $R^2 = .63$, adjusted $R^2 = .60$. There was a significant main effect of Overall Sense of Belonging, $F(1, 130) = 6.47$, $p = .01$, $\eta_p^2 = .09$; $\beta = .15$, such that as participants' sense of

belonging increased, positive perceptions of the instructor's behaviors also increased. Although there was no significant main effect for Generational Status, there was a significant main effect for Instructor's Behaviors, $F(2, 130) = 84.80$. $p < .001$, $\eta_p^2 = .61$. More specifically, participants rated the Positive Instructor's behaviors ($M = 6.69$, $SE = 0.22$) more favorably than both the Neutral Instructor's ($M = 3.34$, $SE = 0.22$) and Negative Instructor's ($M = 3.24$, $SE = 0.19$) behaviors ($ps < .001$).[15] There was no significant difference in participants' positive perceptions of the Neutral and Negative Instructors' behaviors. These main effects were qualified by a marginally significant three-way interaction, $F(2, 130) = 3.05$, $p = .05$, $\eta_p^2 = .05$. Somewhat consistent with the *differential susceptibility hypothesis*, simple slopes analyses indicated that for participants in the Positive Instructor condition, overall sense of belonging was not related to FGCS' or CGCS' favorable perceptions of the instructor's behaviors. However, for participants in the Neutral Instructor Condition, CGCS' overall sense of belonging was positively related to their favorable perceptions of the instructor's behaviors, whereas FGCS' overall sense of belonging was not related to their favorable perceptions of the instructor. Alternatively, for participants in the Negative Instructor Condition, FGCS' overall sense of belonging was positively related to their favorable perceptions of the negative instructor's behaviors, whereas CGCS' overall sense of belonging was not related to their favorable perceptions of the Negative Instructor. These results are displayed in Figure 1 and summarized in Table 11.

Such results provide *some* support for the differential susceptibility hypothesis. Although this hypothesis initially predicted that students with an enhanced overall sense of belonging, regardless of their generational status, would be relatively unaffected by the various instructor behaviors, the opposite appears to be true. The more CGCS and FGCS reported that they feel like they belong in higher education, the more favorably they perceived the neutral and negative

instructor behaviors, respectively. This pattern of results generally suggests that both CGCS and FGCS with an enhanced overall sense of belonging are differentially susceptible to various instructor behaviors. This pattern of results is also consistent with previous research that has shown a strong, positive relationship between undergraduates' sense of belonging and their favorable perceptions of their classes and instructors (e.g., Booker, 2008; Freeman et al., 2007). Further, the relationship between CGCS' and FGCS' overall sense of belonging and their favorable perceptions of neutral and negative instructor behaviors, respectively, may also suggest that having an enhanced sense of belonging may actually serve as a buffer against the potentially deleterious effects of negative and, to a lesser extent, neutral instructor behaviors (e.g., Means & Pyne, 2017; O'Keeffe, 2013). However, please note that this specific three-way interaction was *marginally* significant at $p = .05$ and should be interpreted with caution.

Negative Perceptions of the Instructor.

The overall model for participants' negative perceptions of the instructor was statistically significant, $F(11, 130) = 18.17$, $p < .001$, $R^2 = .63$, adjusted $R^2 = .59$ (see Table 12 for more information). Similar to the previous analysis, there was again a significant main effect of Overall Sense of Belonging, $F(1, 130) = 10.96$, $p = .001$, $\eta_p^2 = .10$; $\beta = -.19$, such that as participants' overall sense of belonging decreased, their negative perceptions of the instructor's behaviors increased. Unlike the previous analysis, however, there was a significant main effect for Generational Status, $F(1, 130) = 11.61$, $p = .001$, $\eta_p^2 = .09$, such that CGCS ($M = 4.41$; $SE = 0.16$) tended to rate the instructors more unfavorably than FGCS ($M = 3.64$; $SE = 0.16$, $p < .001$). There was also a significant main effect for Instructor's Behaviors, $F(2, 130) = 68.89$, $p < .001$, $\eta_p^2 = .58$. More specifically, participants rated the Negative Instructor's behaviors ($M = 5.47$, $SE = 0.18$) more unfavorably than the Neutral Instructor's behaviors ($M = 4.33$; $SE = 0.20$) which, in

turn, was rated more unfavorably than the Positive Instructor's behaviors (M = 2.29; SE = 0.20, ps < .001). These main effects were qualified by a statistically significant three-way interaction, $F(2, 130) = 4.85$, $p = .009$, $\eta_p^2 = .08$. Still somewhat consistent with the *differential susceptibility hypothesis*, simple slopes analyses indicated that for participants in the Positive Instructor condition, FGCS' sense of belonging was not related to their negative perceptions of the instructor. However, for CGCS, as their overall sense of belonging decreased, their negative perceptions of the Positive Instructor increased. For participants in the Neutral Instructor condition, sense of belonging was not related to FGCS' or CGCS' negative perceptions of the instructor's behaviors. Finally, for participants in Negative Instructor condition, as FGCS's overall sense of belonging increased, their negative perceptions of the Negative Instructor decreased, whereas CGCS's sense of belonging was not related to their negative perceptions of this instructor. These results are displayed in Figure 2 and summarized in Table 13.

Although still inconsistent with the initial *differential susceptibility hypothesis*, the current pattern of results again suggests that the extent to which CGCS and FGCS feel like they belong in higher education is differentially related to their unfavorable perceptions of the various instructor behaviors. The results presented in Figure 2 clearly show that the less strongly CGCS agreed that they feel like they belong in higher education, the more unfavorably they perceived the positive instructor behaviors, whereas the more strongly FGCS agreed that they feel like they belong in higher education, the less unfavorably they perceived the negative instructor behaviors. This pattern of results may again suggest that having an enhanced sense of belonging can serve as a buffer against negative instructor behaviors for some at-risk students (i.e., FGCS). However, this pattern of results may also suggest that having a diminished sense of belonging is related to other students' (i.e., CGCS) tendency to be especially critical of positive instructor behaviors.

Likelihood of Interacting with the Instructor.

The overall model for participants' anticipated likelihood of interacting with the instructor was statistically significant, $F(11, 130) = 17.33$, $p < .001$, $R^2 = .62$, adjusted $R^2 = .58$ (see Table 14 for more information). The main effect of Overall Sense of Belonging was again significant, $F(1, 130) = 10.04$, $p = .002$, $\eta_p^2 = .12$; $\beta = .19$, such that as participants' overall sense of belonging increased, their anticipated likelihood of interacting with in the instructor also increased. Further, there was again a significant main effect for Generational Status, $F(1, 130) = 6.82$, $p = .01$, $\eta_p^2 = .06$, such that FGCS ($M = 4.73$; $SE = 0.21$) rated that they would be more likely to interact with the instructor than CGCS ($M = 3.92$; $SE = 0.23$, $p = .01$). The main effect of Instructor's Behaviors was again significant, $F(2, 130) = 71.22$, $p < .001$, $\eta_p^2 = .57$. More specifically, participants agreed more strongly that they would anticipate interacting with the Positive Instructor ($M = 6.71$, $SE = 0.28$) than the Neutral Instructor ($M = 4.03$; $SE = 0.28$) as well as more likely to interact with the Neutral Instructor than with the Negative Instructor ($M = 2.25$; $SE = 0.25$, ps $< .001$). These main effects were again qualified by a statistically significant three-way interaction, $F(2, 130) = 3.52$, $p = .03$, $\eta_p^2 = .06$. Similar to the analyses reported above, and still somewhat consistent with the *differential susceptibility hypothesis*, simple slopes analyses indicated that for participants in the Positive Instructor condition, FGCS' sense of belonging was not related to their anticipated likelihood that they would interact with the instructor. However, for CGCS, as their overall sense of belonging decreased, the less likely they reported they would interact with the Positive Instructor outside of class. There were no significant effects for participants in the Neutral Instructor condition. However, for participants in the Negative Instructor condition, as FGCS' overall sense of belonging increased, their anticipated likelihood of interacting with the Negative Instructor outside of class also increased,

whereas CGCS's sense of belonging was not related to their anticipated likelihood of interacting with this instructor outside of class. These results are displayed in Figure 3 and summarized in Table 15.

Consistent with the analyses reported above, this pattern of results supports the *differential susceptibility hypothesis*, but not as it was initially predicted. Indeed, the results concerning undergraduates' likelihood of interacting with various instructors again suggest that the students who are most susceptible to the different instructor behaviors are FGCS with a higher overall sense of belonging and CGCS with a lower overall sense of belonging. It makes sense that FGCS with a higher overall sense of belonging would be more likely to anticipate interacting with the instructor who displayed negative behaviors. Prior research has shown that FGCS do not have access to the same social and cultural capital as their CGCS peers (e.g., Davis, 2010). As such, when these individuals enter higher education *and* feel like they belong, they may be especially likely to respond favorably to a variety of even suboptimal social situations (e.g., an instructor who displays negative behaviors during class). However, the current finding concerning CGCS is a bit more difficult to explain.

As CGCS overall sense of belonging decreased, so too did their anticipated likelihood of interacting with the instructor who displayed positive behaviors. Given that CGCS tend to enter higher education with the social and cultural capital needed to be able to understand what it takes to be a successful college student (e.g., Oldfield, 2007; Soria & Stebleton, 2013), it would seem reasonable that the CGCS who feel like they do not belong in higher education would be *more* likely to anticipate interacting with their instructors, but especially their instructors who display positive behaviors. However, the pattern of results reported here suggest that CGCS who feel like they do not belong in higher education may actually be frustrated by their general lack of

belonging and, consequently, less likely to interact with the instructors who may be the most helpful. Given the substantial influence instructors can have on their students (e.g., Saucier et al., in press), more research is needed to better understand the factors that may prevent students (i.e., CGCS and FGCS) from interacting with their instructors outside of class.

Perceptions of the Instructors' Policies.

As presented in Table 16, the overall model for participants' perceptions of the instructors' policies was statistically significant, $F(11, 130) = 11.66$, $p < .001$, $R^2 = .52$, adjusted $R^2 = .47$. Consistent with the previous analysis, there was a significant main effect of Overall Sense of Belonging, $F(1, 130)$, 11.11, $p = 0.001$, $\eta_p^2 = .11$; $\beta = .22$, such that as participants' overall sense of belonging increased, the more favorably they perceived the instructors' policies. There was also another main effect for Generational Status, $F(1, 130) = 7.23$, $p = 0.008$, $\eta_p^2 = .07$, such that FGCS ($M = 5.86$; $SE = 0.21$) tended to have more favorable perceptions of the instructors' policies than did CGCS ($M = 5.05$; $SE = 0.22$, $p = .008$). Finally, there was also a significant main effect of Instructor's Behaviors, $F(2, 130) = 46.32$, $p < .001$, $\eta_p^2 = .45$. Participants tended to have more favorable perceptions of the policies displayed in the Positive Instructor condition ($M = 6.98$; $SE = 0.27$) than the policies displayed in the Neutral Instructor condition ($M = 5.79$; $SE = 0.27$) which, in turn, were rated more favorably than the policies displayed in the Negative Instructor condition ($M = 3.60$; $SE = 0.24$, ps $< .01$). There were no significant two-way or three-way interactions.

While the findings presented here on Generational Status and Instructor Behaviors are generally consistent with what was reported earlier, the positive relationship between the participants' overall sense of belonging and their favorable perceptions of the instructor's policies is also consistent with the extant literature on undergraduates' sense of belonging. For

instance, the more students feel like they belong in higher education, the more favorably they tend to perceive their instructors and classes (e.g., Booker, 2007). However, the current investigation is among the first to test the relationship between students' overall sense of belonging and their perceptions of course policies. Given that course policies can be used to outline the structure of our courses *and* lay the foundation for excellent online learning communities (e.g., Brook & Oliver, 2003), it is important to better understand the individual differences among our students that can influence their perceptions of our course policies.

General Attitudes and Expectations.

As presented in Table 17, the overall model for participants' general attitudes and expectations of the various instructors was statistically significant, $F(11, 130) = 19.96$, $p < .001$, $p < .001$, $R^2 = .65$, adjusted $R^2 = .62$. Again similar to the previous analyses, there was a significant main effect of Overall Sense of Belonging, $F(1, 130) = 18.85$, $p < .001$, $\eta_p^2 = .19$; $\beta = .25$, such that as participants' overall sense of belonging increased, the more favorable their general attitudes and expectations were toward the instructor. Although there was not a significant main effect for Generational Status, there was a significant main effect of Instructor Behaviors, $F(2, 130) = 82.02$, $p < .001$, $\eta_p^2 = .60$. Participants agreed more strongly that they would anticipate having more favorable attitudes toward and expectations of the Positive Instructor ($M = 6.43$, $SE = 0.20$) than the Neutral Instructor ($M = 3.87$; $SE = 0.20$). Further, participants also agreed more strongly that they would anticipate having more favorable attitudes toward and expectations of the Neutral Instructor than the Negative Instructor ($M = 3.02$; $SE = 0.18$, ps $< .01$). There were no significant two-way or three-way interactions. Overall, the results presented here provide additional support for the *trickle down hypothesis*. Indeed, these results further suggest that the behaviors that instructors display during class are likely to "trickle down"

and influence the subjective experiences of their students. These results also provide additional evidence concerning the relationship between having an enhanced overall sense of belonging and students' favorable attitudes and expectations of their instructors.

Perceived Engagement.

As presented in Table 18, the overall model for participants' self-reported engagement was statistically significant, $F(11, 130) = 21.07$, $p < .001$, $R^2 = .66$, adjusted $R^2 = .63$. There was a significant main effect for Overall Sense of Belonging, $F(1, 130) = 8.25$, $p = .005$, $\eta_p^2 = .10$; $\beta = .16$, such that as participants' overall sense of belonging increased, their self-reported perceived engagement also increased. There was no significant main effect for Generational Status, but there was a significant main effect of Instructor Behaviors, $F(1, 130) = 94.86$, $p < .001$, $\eta_p^2 = .64$. More specifically, participants self-reported that their perceived engagement during the remote teaching demonstration was greater for the Positive Instructor condition ($M = 6.79$; $SE = 0.26$) than either the Neutral Instructor ($M = 2.70$; $SE = 0.25$) or the Negative Instructor ($M = 2.47$; $SE = 0.23$, ps <.001) conditions. There were no significant two-way or three-way interactions. Overall, these results are consistent with prior research that has shown significant, positive relationships between students' overall sense of belonging and perceived engagement (e.g., Gillen-O'Neel, 2021) as well as prior research on the impact of instructors' behaviors and students' perceived engagement (e.g., Saucier et al., in press).

Quiz Performance.

As presented in Table 19, the overall model for participants' performance on the corresponding quiz was not significant. Further, there were no significant main effects or interactions. Such findings are inconsistent with the results from Study 1. A discussion concerning this discrepancy is provided in the Study 1 Replication Analyses section.

Summary of Study 2

Overall, the results from Study 2 generally replicated those from Study 1 and provided some additional support for the *trickle down hypothesis*. Indeed, the results from Study 2 further suggest that the behaviors instructors display during class are likely to trickle down and impact the subjective experiences of their students. However, when participants' overall sense of belonging was added to the model, the significant three-way interactions for participants' positive/negative perceptions of the remote instructors as well as their perceived likelihood of interacting with the remote instructor provided *some* support for the *differential susceptibility hypothesis*. These patterns of results suggest that the extent to which students feel like they belong in higher education is significantly, but differently related to first-generation and continuing-generation college students' perceptions of and anticipated responses toward various instructor behaviors. More specifically, continuing-generation college students with a lower overall sense of belonging tended to rate positive instructor behaviors more negatively, whereas first-generation college students with a higher overall sense of belonging tended to rate negative instructor behaviors more favorably.

It is also noteworthy that there were no significant two-way interactions in the above analyses. More specifically, and optimistically, the null findings regarding the interaction between participants' generational status and overall sense of belonging may suggest that FGCS are not necessarily entering higher education with a lower overall sense of belonging than their CGCS peers. Although prior research has often suggested otherwise (e.g., Gillen-O'Neel, 2021; Oldfield, 2007; Rendon, 1992; Stebleton & Soria, 2013), the lack of differences among FGCS' and CGCS' students' overall sense of belonging in the current investigation may be an artifact of the institution they are attending. Indeed, the FGCS and CGCS who participated in the current

investigation were recruited at Kansas State University. This is an important distinction to make because Kansas State University is unique in that it has several offices designed to work with FGCS (e.g., the Office of First Generation College Students, K-State First) and provide instructors with the resources they need to help this unique population (e.g., Kansas State University Teaching & Learning Center). More information on the influence of such resources is provided below.

Chapter 4 - General Discussion

The goals of the current investigation were twofold. Study 1 sought to examine the differences between FGCS and CGCS in terms of their perceptions of and anticipated responses to instructor behaviors that are perceived to be positive, neutral, or negative. Study 2 sought to replicate and extend the results from Study 1 by examining the extent to which FGCS' *and* CGCS' sense of belonging was related to their perceptions of and anticipated responses to the same instructor behaviors. Overall, the results from Study 1 supported the *trickle down hypothesis.* This hypothesis was based on the work by Saucier et al. (in press) and generally proposed that students, regardless of their generational status, would have more favorable perceptions of (and anticipated responses to) positive instructor behaviors than of instructor behaviors that were either neutral or negative. Indeed, the pattern of results from Study 1 show that undergraduates, regardless of their parents' and/or legal guardians' educational experiences, tended to have especially favorable attitudes toward the instructor who displayed positive behaviors, but also especially unfavorable attitudes toward the instructor who displayed negative behaviors. Further, when it came to the instructor who displayed positive behaviors, undergraduates in Study 1 tended to agree more strongly that they (a) would be especially likely to anticipate interacting with this instructor, (b) had more favorable perceptions of this instructor's policies, and (c) had more favorable attitudes toward and expectations of this instructor in general compared to the instructors who displayed neutral and negative behaviors. Interestingly, the pattern of results for Study 1 showed that even the instructor who displayed neutral behaviors was rated more favorably among these variables than the instructor who displayed negative behaviors. Finally, and especially relevant to undergraduates' academic success (e.g., Gutierrez et al., 2018; Reyes et al., 2012; Robinson & Gahagan, 2010; Saucier et

al., in press; Upadyaya & Salmelo-Aro, 2013), participants in Study 1 agreed more strongly that they were especially engaged in, and even performed better on the corresponding quiz for the remote teaching video that featured the positive instructor behaviors than for the remote teaching videos that featured either the neutral or negative instructor behaviors.

Concerning Study 2, analyses showed that the pattern of results reported in Study 1 generally replicated in Study 2, thereby providing additional support for the *trickle down hypothesis*. More specifically, the results from Study 2 showed that undergraduates, again regardless of their parents' and/or legal guardians' educational experience, tended to have more favorable perceptions of the instructor who displayed positive behaviors than the instructors who displayed neutral and negative behaviors. Undergraduates in Study 2 also reported more unfavorable perceptions of the instructor who displayed negative behaviors than the instructors who displayed neutral and positive behaviors. Still consistent with Study 1, the undergraduates in Study 2 again reported that when it came to the instructor who displayed positive behaviors, they (a) would be especially likely to anticipate interacting with this instructor, (b) had more favorable perceptions of this instructor's policies, and (c) had more favorable attitudes toward and expectations of this instructor in general compared to the instructors who displayed neutral and negative behaviors. Undergraduates in Study 2 also tended to agree more strongly that the instructor who displayed positive behaviors was significantly more engaging than the instructors who displayed neutral and negative behaviors. Unlike Study 1, however, there were no significant differences across the three conditions in participants' performance on the brief quiz.

When undergraduates' overall sense of belonging was added into the model, there were some interesting—but also unexpected—findings (for a summary of these findings, please see Table 9). More specifically, the results from Study 2 show that the more strongly undergraduates

in the current investigation agreed that they felt like they belonged in higher education, the more (a) favorably they perceived the instructor, (b) likely they were to anticipate interacting with the instructor outside of class, (c) favorably they perceived the instructor's policies, (d) favorable their general attitudes toward and expectations of the instructor, and (e) the more strongly they agreed that they were engaged in the remote instructor's class. Indeed, these findings are consistent with prior research that has linked students' enhanced sense of belonging to more favorable perceptions of instructors (e.g., Booker, 2008; Freeman et al., 2007) as well as enhanced classroom engagement (Gillen-O'Neel, 2021). Further, although the analyses for Study 2 yielded a pattern of results similar to that of Study 1 for undergraduates' perceptions of and anticipated responses to the various instructor behaviors, the results from Study 2 also yielded some differences regarding generational status. For instance, CGCS tended to have more unfavorable perceptions toward the various instructors than FGCS. Further, FGCS tended to anticipate that they would be more likely to interact with the various instructors outside of class and also had more favorable perceptions of the instructor's policies than did CGCS. These significant main effects for generational status in Study 2 were generally qualified by a significant three-way interaction once undergraduates' sense of belonging was added to the model.

Overall, the statistically significant three-way interactions observed in Study 2 provided *some* support for the *differential susceptibility hypothesis*, but not in the way that was initially predicted. As previously discussed, the *differential susceptibility hypothesis* is based on the work by Belsky and colleagues (e.g., Belsky et al., 2007; Belsky & Pluess, 2009) and was used in Study 2 to predict that students with an enhanced sense of belonging, regardless of their generational status, will be relatively unaffected by their environmental circumstances (i.e.,

positive, neutral, or negative instructor behaviors). However, at risk students such as FGCS (and, to a lesser extent, perhaps some CGCS) with a diminished sense of belonging may be especially susceptible to the various instructor behaviors. Contrary to this hypothesis, the pattern of results from Study 2 revealed that the extent to which CGCS felt like they belonged in higher education only related to their perceptions of and anticipated responses toward the behaviors displayed in the Positive Instructor condition. For instance, CGCS with a diminished overall sense of belonging tended to have more negative perceptions of the instructor featured in the Positive Instructor condition and anticipated that they would be less likely to interact with this individual. Alternatively, the extent to which FGCS felt like they belonged only related to their perceptions of the behaviors displayed in the Negative Instructor condition. More specifically, FGCS with an enhanced overall sense of belonging tended to rate this instructor less negatively *and* anticipated that they would be more likely to interact with this instructor.

A plausible explanation for these unexpected findings could be related to the expectations first-generation and continuing-generation college students have regarding the college/university experience. As previously discussed, CGCS have access to the social and cultural capital—via their parents—that they need in order to know about what it means to be a college student (e.g., Oldfield, 2007; Soria & Stebleton, 2013). This may result in CGCS entering higher education with an already established sense of belonging. Unfortunately, CGCS may experience a variety of circumstances that can negatively impact the extent to which *any* student may feel like he/she/they belong in higher education. For example, research has shown that students who experience acts of discrimination and/or bias (Hussain & Jones, 2021), have a poor educational background (Marksteiner et al., 2019), or lose a critical support system (Smith et al., 2015) are likely to feel like they do not belong in higher education. When this happens, continuing-

generation students may become frustrated that their—potentially unrealistic—expectations of automatically feeling like they belong in higher education are incongruent with their reality. Such frustrations may motivate these students to be overly pessimistic and critical of their instructors. Conversely, FGCS do not typically have the same social and cultural capital that they need to fully understand and appreciate the college student role (e.g., Davis, 2010). As a result, FGCS may be less likely to enter higher education with an already established sense of belonging. If these individuals enter higher education and experience situations that boost their sense of belonging (e.g., learning communities; Priest et al., 2016), they may experience a type of Halo Effect (e.g., Nisbett & Wilson, 1977) wherein they perceive their environment more favorably and optimistically. Prior research has even shown that the more students feel like they belong in higher education, the more they tend to perceive their instructors as warm and open (Freeman et al., 2007). As such, FGCS with a higher overall sense of belonging may be more likely to overlook the flaws of their instructors, whereas CGCS with a lower overall sense of belonging may be more critical of their instructors' behaviors. Although plausible, this explanation of the unexpected pattern of results found in Study 2 is speculative. Additional research on the relationship between the extent to which students feel like they do (or do not) belong in higher education and their tendency to have overly optimistic (or pessimistic) perceptions of their instructors is needed.

As discussed earlier, considerable research has focused on (a) the barriers facing FGCS (e.g., Bui, 2002; Engle, 2007; Gibbons & Borders, 2010; Lohfink & Paulsen, 2005; Martinez et al., 2009; Pascarella et al., 2004; Soria & Stebleton, 2012), (b) the relationship between students' sense of belonging and their overall success within higher education (e.g., Hoffman et al., 2002; Slaten et al., 2018; Strayhorn, 2019), and (c) the substantial role that instructors have in the

success of their students (but especially FGCS; e.g., Means & Pyne, 2017). However, relatively little is known about how undergraduates' generational status and overall sense of belonging relate to how they perceive and subsequently respond to various instructor behaviors. Indeed, a substantial strength of the current investigation is that these data are among the first to show that undergraduates' generational status and overall sense of belonging interact in relating to their perceptions of and anticipated responses to various instructor behaviors. In addition to contributing to the extant literatures on first-generation and continuing-generation college students, sense of belonging in higher education, and the important role that instructors play within their classes, the results from the current investigation also have important theoretical and practical implications.

Theoretical Implications

The support of the *trickle down hypothesis* expands Saucier et al.'s (in press) trickle down engagement model and further demonstrates the substantial impact instructors' behaviors can have on the subjective experiences of their students. More specifically, Saucier et al.'s trickle down engagement model suggests that there are relatively simple changes instructors can make to their own pedagogy that can improve their own subjective experiences during class and, consequently, trickle down to improve their students' subjective experiences as well. However, Saucier et al.'s model has tended to focus on the instructor behaviors that can *enhance* their (and, consequently their students') subjective experiences. The results of the current investigation extend Saucier et al.'s model by identifying the potentially negative instructor behaviors that can also be a detriment to their (and, consequently their students') subjective experiences in class.

Still related to Saucier et al.'s (in press) trickle down engagement model, the results from the current investigation also suggest that regardless of how positively an instructor may behave

during class, there may be some students (i.e., CGCS with a lower overall sense of belonging) who are going to be unaffected, or even negatively affected, by the instructor's positive behaviors. The trickle down engagement model never suggested that positive instructor behaviors would "trickle down" and enhance the subjective experiences of *all* students. However, given that many instructors are committed to facilitating positive subjective experiences for as many of their students as possible, it is important to better understand when, and under what conditions, instructors' positive behaviors during class may be undermined by individual differences among their students. Indeed, the results from the current investigation offer an excellent glimpse into such individual differences as well as provide an empirically tested approach (i.e., the remote teaching demonstrations) that can be used to further explore this theory.

Further, although contrary to what was initially predicted, the support for the *differential susceptibility hypothesis* helps to broaden the reach of the differential susceptibility model (e.g., Belsky et al., 2007; Belsky & Pluess, 2009). Researchers using the differential susceptibility model have often attempted to identify the various markers of susceptibility for such things as reactive temperament, biological sensitivity to stress, and genetic makeup (for a review, see Bakermans-Kranenburg & Van IJzendoorn, 2015) in order to identify the "constitutional factors that may point to an underlying factor affecting how individuals experience or approach their environment" (pg. 387). For example, in a meta-analysis exploring differential susceptibility, Van IJZendoorn et al. (2012) found that children with certain alleles were especially adversely affected by negative environments, but were also more likely to benefit from positive environments. Although some research has applied the differential susceptibility model to the classroom, much of this research has tended to focus on student susceptibilities related to

temperament and parenting problems (e.g., Bradley & Corwyn, 2008) as well as other individual difference variables related to social anxiety (e.g., anxious solitude which is the tendency for children to play alone when among unfamiliar peers; see Hughes & Coplan, 2018). However, the extant literature has yet to explore how students' generational status and/or extent to which they feel like they belong in higher education renders them differentially susceptible to various environmental conditions that are specific to higher education (e.g., instructor behaviors). As such, the results from the current investigation further demonstrate the utility of Belsky's (1997) differential susceptibility model within an educational context by showing that the extent to which FGCS and CGCS feel like they belong in higher education can differentially influence their perceptions of and anticipated responses to various instructor behaviors.

Practical Implications

The results from the current investigation also have significant practical implications. For instance, the *trickle down hypothesis* for Studies 1 and 2 predicted that college/university students (i.e., FGCS *and* CGCS) would respond favorably to the positive instructor behaviors, but would also respond unfavorably to the negative instructor behaviors. Overall, this hypothesis was generally supported and suggests that there are certain behaviors that instructors engage in that can substantially impact (for better or worse) their students' subjective experiences during class. Such findings are consistent with Saucier et al.'s (in press) trickle down engagement model. More specifically, a key tenet of this model is that that there are simple changes instructors can make to optimize their own subjective experiences as well as the subjective experiences of their students. In tandem with this model, the results from the present studies can be used to provide college/university instructors with a list of behaviors that are likely to have a substantial impact on their students. For example, the results from these studies can be used to

encourage instructors to engage in more positive behaviors (e.g., more conversational tones, use of positive cue statements, the sharing of personal experiences/examples, inviting students to ask questions) as well as avoid potentially negative behaviors (e.g., the use of highly technical jargon, use of negative cue statements, belittling students, being especially dismissive of students' questions and/or concerns), thereby potentially improving students' overall subjective experiences and perceived engagement in our classes.

The significant findings concerning students' overall sense of belonging also highlight the importance of this critical variable. The results from Study 2 generally show that students' (i.e., both FGCS *and* CGCS) overall sense of belonging relates to how they perceive and anticipate responding to various instructor behaviors. In addition to broadly identifying the instructor behaviors that (for better or worse) influence the subjective experiences of our students, the results from the current investigation can also be used to specifically communicate the importance of assessing and enhancing the extent to which our students feel like they belong in higher education. By enhancing our students' sense of belonging, we may improve their subjective experiences within our classes as well as improve their likelihood of academic success (e.g., Strayhorn, 2019).

Additional Contributions

In addition to the empirical contributions, theoretical implications, and practical implications that are listed above, the current investigation also offers methodological contributions to those interested in educational research. For instance, the various dimensions of the Instructor Opinion Survey that was used in both Studies 1 and 2 have the potential to provide educators and educational researchers with additional tools that can measure a variety of student-based factors. For example, the brief scale that assessed undergraduates' perceived likelihood of

interacting with the instructor could be used by educators to identify whether or not students intend to reach out to them outside of class (e.g., during office hours). If students' ratings on this scale are especially high, instructors could use this information to justify trying to be more flexible with how they schedule/structure their office hours. However, if students' ratings on this scale are especially low, instructors could also use this information to help structure in-class discussions that encourage and invite students to seek out instructors if/when they need help. Similarly, the scale that assessed students' perceptions of course/instructor policies also has the potential to provide valuable information. Educators could use such a scale in their classrooms to quickly gauge students' perceptions of our policies and identify the policies that may be misperceived as well as the policies they may consider collaborating on with their students to create even more fair and effective learning communities (e.g., Duplaga & Astani, 2010). Despite these potential benefits, additional research is needed to validate these scales and assess their psychometric properties.

Limitations and Future Directions

Although the current investigation offers several contributions to the extant literature, there are some noteworthy limitations. For instance, a portion of the results from these studies offer only a cross-sectional exploration on the factors that relate to undergraduates' perceptions of and anticipated responses to various instructor behaviors. Further, the current investigation only assessed undergraduates' perceptions of and anticipated responses to various instructor behaviors at a single point during their academic career. Perhaps as undergraduates (i.e., both FGCS and CGCS) become more familiar with their instructors and/or the college student role, their perceptions of and anticipated responses to various instructor behaviors are likely to change. Similarly, it is likely that students may be especially susceptible to various instructor

behaviors earlier in their academic career (e.g., their first- or second-year of college), but as they become more familiar with college life, their susceptibility to various instructor behaviors may decrease.[16] Although beyond the scope of the current investigation, future research should seek to longitudinally assess the extent to which students' generational status and/or overall sense of belonging relates to their perceptions of an anticipated responses to various instructor behaviors throughout their academic careers.

Another potential limitation of the current investigation may be the use of a single recorded class session. Although the use of a recorded class session allowed for greater control over the manipulation of the various instructor behaviors, undergraduate participants may not have been motivated to engage with the single teaching demonstration (regardless of instructor behavior) to the same extent as a more traditional, semester-long class. Similarly, none of the undergraduate participants were enrolled in the actual class they viewed as part of the manipulation. As such, they may not have had any vested interest in the course. That being said, the use a recorded class section as an example of online/remote instruction was also a strength of the current investigation. The COVID-19 pandemic has forced many instructors to transition to remote teaching modalities. Unfortunately, many of these instructors were expected to teach online/remotely for the first time, and often without any training (e.g., Johnson et al., 2020; Silva de Souza et al., 2020; Sunasee, 2020). As such, many instructors may be concerned about the effectiveness of their remote instruction during these strange and unprecedented times. Fortunately, the results from the current investigation suggest that if instructors model positive behaviors in their remote classes, they are likely to be perceived favorably by their students and their students are also likely to be more engaged during class. Regardless of this strength, future research using more naturalistic settings should seek to assess the instructor behaviors that

impact (for better or worse) FGCS' and CGCS' overall academic success and/or sense of belonging.

The current investigation may have also been limited in that the critical stimuli that was used to expose students to instructor behaviors that are positive, negative, or neutral may have had additional, underlying messages that could have influenced participants' responses. More specifically, it is possible that the behaviors displayed by the positive instructor may have also communicated messages related to empathy, warmth, equity, and understanding. These beneficial messages to the students may have been organically entangled in the positive instructor's behaviors. The results from the current investigation suggest that instructors who display positive behaviors during class and communicate their empathy and understanding are likely to have a substantial, positive impact on their students. Given the important role that empathy can play in our classes (e.g., Saucier, 2019), future research should further explore the ways in which instructors can clearly demonstrate their empathy during class.

Still concerning the critical stimuli that was used in the current investigation, another limitation may have been the use of only one instructor in these remote teaching demonstrations. Although this strategy allowed for the greatest degree of empirical control, it did not allow for the assessment of differences in students' responses based on the instructor's own demographics (e.g., ethnicity, gender). Such a limitation provides an excellent direction for future research. More specifically, future research should seek to assess if the effects of the manipulation used in the current investigation would be larger (or smaller) if the ethnicity of the instructor being portrayed in the video was the same as (or different from) the ethnicity of the students. Future research should also explore the impact that various student identities may have on their perceptions of instructor behaviors that are positive, negative, or neutral. Whereas the current

investigation focused primarily on generational status, it is possible that other marginalized identities (e.g., gender-based identity, sexual orientation, racial identity, SES) may be related to students' perceptions of and anticipated responses to various instructor behaviors. Similarly, future research should also explore the impact that such identities may have on students' overall sense of belonging.[17]

Despite these limitations, the current investigation also serves as an excellent foundation for future research. For instance, the timing of the course being depicted in the critical stimuli for Studies 1 and 2 only featured a single class session at the beginning of a given semester. For many courses, the first few days of class are often designed to provide students with a general overview of the course. As such, the topics discussed on the first day of class may be relatively safe (i.e., non-controversial) with more engaging topics often saved for later in the semester. Similarly, the content covered during a given class is likely to result in different interactions among students and the instructor. For example, the interactions instructors have with their students when discussing topics like operational definitions are likely to be substantially different from the interactions instructors have with their students when discussing topics like altruism and/or antisocial behaviors. Using the lessons learned from the current investigation, future research using more longitudinal means could seek to assess the impact of instructor behaviors at different points throughout the semester (and across various content areas) in order to determine if certain instructor behaviors are especially influential at the beginning, middle, or end of a given semester. Indeed, the manipulation of the instructor's behaviors in the current investigation would serve as an excellent model for the development of new stimuli (i.e., teaching demonstrations) that could be appropriate for any point during the academic year.

Still concerning future research, although the current investigation was designed to focus on select factors (i.e., generational status, sense of belonging) that may influence undergraduates' perceptions of and anticipated responses to various instructor behaviors, there are a wide variety of factors that may relate to undergraduates' perceptions of and anticipated responses to instructors' behaviors. Most notably may be undergraduates' access (or lack thereof) to various support systems within higher education. For instance, many of the FGCS who participated in the current investigation were primarily recruited with the help of the Kansas State University Office of First Generation Students. This office is a tremendous resource for FGCS enrolled at Kansas State University and it implies that administrators at Kansas State University are aware of the barriers facing FGCS, and have implemented an entire office to assist this unique population and aid in their overall persistence and sense of belonging in higher education. Such resources may help to account for the robust findings concerning undergraduates' overall sense of belonging compared to their generational status. Although the findings from the current investigation may suggest that undergraduates' overall sense of belonging is a critically important variable to consider when assessing our students' attitudes of and anticipated responses toward various instructor behaviors, it is important to consider the various services the offices listed above provide to students. Indeed, such resources may also help to explain why there were generally no significant differences between FGCS and CGCS in their perceptions of and anticipated responses to the various instructor behaviors that were used in the current investigation. As previously discussed, Kansas State University is unique in that it has an Office of First Generation College students that can easily identify every currently enrolled FGCS, as well as a K-State First program that designs and implements first-year experience courses that help students from various backgrounds, but especially FGCS, succeed at the college/university

level (e.g., Eiselein et al., 2019; Saucier et al., 2020; Saucier & Martens, 2015). The existence of such programs may have successfully minimized the differences between FGCS and CGCS enrolled at Kansas State University. Unfortunately, however, such offices are not available at every college and/or university. Future research should also focus on how having an Office of First Generation Students and related First Year Experience programs may uniquely benefit this group of students compared to colleges and/or universities without such resources as well as explore how such resources may relate to the subjective experiences of students *and* instructors.

Conclusion

The results from the current investigation further highlight the influence instructors have (for better or worse) on the subjective experiences of their students. Indeed, the results from the current investigation clearly show that the positive, neutral, and negative behaviors instructors display during class (even if unintentional) may impact their students' perceptions of and anticipated responses to the instructors' behaviors (Studies 1 and 2), perceived engagement (Studies 1 and 2), and even their performance on course assessments (Study 1). Given the substantial impact of the various instructor behaviors, regardless of students' generational status, one potential interpretation of the current results could be that higher education institutions do not need to focus as much on FGCS, but instead, should focus on hiring good teachers. While hiring good teachers is beneficial in advancing the education of students, this often is not the only factor in hiring decisions (i.e., other factors may include research experience, departmental needs, grant funding, etc., and these may be more highly valued in the hiring process) and would likely not completely address the overarching issue because it does not directly understand or resolve the challenges faced in education by FGCS. Given that FGCS are (a) entering higher education at an unprecedented rate *and* (b) likely to face a number of barriers to their academic

success, additional efforts should continue to be made to better understand, and ultimately help, this unique population.

The current investigation also contributes to the extant literature on undergraduates' overall sense of belonging and suggests that that the more undergraduates feel like they belong in higher education, the more favorably they tend to perceive their instructors (Study 2). More importantly, the results from the current investigation have the potential to move the extant literature beyond simply focusing on the potential differences that exist between FGCS and CGCS. Indeed, the current investigation is among the first to demonstrate that the extent to which FGCS *and* CGCS feel like they belong in higher education is likely to influence how they perceive and anticipate responding to instructor behaviors that are generally positive or negative. By demonstrating that undergraduates' sense of belonging is significantly related to both first-generation and continuing-generation college students' subjective experiences during class, the results from the current investigation have the potential to be manualized and used to facilitate professional development programs for college/university instructors wherein the importance of our students' overall sense of belonging, regardless of their generational status, is clearly communicated. Indeed, such professional development programs have the potential to educate college/university instructors about the importance of students' overall sense of belonging as a predictor of students' subjective experiences, persistence, and academic success as well as an outcome of various college/university interactions (e.g., within learning communities, with instructors and/or peers). Similarly, by identifying the instructor behaviors that (for better or worse) impact students' subjective experiences during class, these results also allow for the opportunity to organize professional development programs wherein college/university instructors can be broadly informed of the substantial impact their behaviors (even if

unintentionally positive, neutral, or negative) can have on their students. Indeed, such professional development programs can be used to potentially maximize positive instructor behaviors, minimize negative instructor behaviors, and consequently enhance the subjective experiences for students *and* instructors alike.

Table 1 ***Complete Demographic Breakdown for the First-Generation College Students (FGCS) and Continuing Generation College Students (CGCS) in Study 1***

	Generational Status	
	FGCS (*n* = 75)	CGCS (*n* = 63)
Assigned Condition		
Positive Instructor	*n* = 21	*n* = 22
Neutral Instructor	*n* = 34	*n* = 20
Negative Instructor	*n* = 20	*n* = 21
Mean (*SD*) Age	22.18 (4.75)	19.27 (1.46)
Gender Identification		
Male	20.0%	33.3%
Female	80.0%	63.5%
Non-Binary	--	3.2%
Race/Ethnicity		
White/Caucasian	54.7%	84.0%
Black	16.0%	1.6%
Hispanic or Latinx	18.7%	3.2%
Asian	5.3%	1.6%
Other	5.3%	9.6%
Grade Level		
First-Year Student	22.7%	63.5%
Sophomore	21.3%	19.0%
Junior	22.7%	9.5%
Senior	29.3%	6.4%

	Generational Status	
	FGCS (*n* = 75)	CGCS (*n* = 63)
Transfer Student	2.7%	1.6%
Involvement in College Preparation Programs in High School	57.3%	76.2%
Has Military Experience	6.7%	1.6%
Mean (*SD*) Number of Current Credit Hours	13.45 (3.41)	14.70 (2.33)
Currently Employed	66.7%	55.6%
Number of Hours Worked Each Week		
1-10 Hours	13.3%	14.3%
11-20 Hours	20.0%	30.2%
21-30 Hours	16.0%	6.3%
31 or more Hours	17.3%	4.8%
Involvement in On-Campus Organizations	41.3%	33.3%
Housing Situation		
Lives On Campus	18.7%	50.8%
Lives with Friends Off Campus	29.3%	30.2%
Lives with Family Off Campus	22.7%	9.5%
Lives Alone Off Campus	16%	3.2%
Born in North America	90.7%	88.9%
Identifies as Christian	46.7%	73.0%
Hometown Description		
Urban	25.3%	9.5%
Suburban	30.7%	61.9%
Rural	44.0%	28.6%

	Generational Status	
	FGCS (*n* = 75)	CGCS (*n* = 63)
Socioeconomic Status		
Under $20,000	12.0%	4.8%
$20,000 - $39,999	25.3%	6.3%
$40,000 - $59,999	16.0%	14.3%
$60,000 - $79,999	17.3%	15.9%
$80,000- $99,999	17.3%	11.1%
$100,000 or More	10.6%	47.6%
Marital Status		
Single	88.0%	100%
Married	12.0%	--
Has Children	10.7%	0.0%

Table 2 ***Means (and Standard Deviations) from Quantitative Pilot Study Data on Participants' Perceptions of the Three Different Instructors' Behaviors***

		Negative Instructor	Neutral Instructor	Positive Instructor	F (2, 85)	η_p^2
Perceived Teaching Style					88.19***	.67
	M	2.03[a]	4.35[b]	7.14[c]		
	(*SD*)	(1.80)	(1.20)	(1.80)		
Positive Perceptions of the Instructor					113.92***	.73
	M	2.97[a]	2.88[a]	6.78[b]		
	(*SD*)	(1.38)	(0.82)	(1.10)		
Negative Perceptions of the Instructor					67.41***	.61
	M	5.36[c]	4.22[b]	1.82[a]		
	(*SD*)	(1.49)	(1.03)	(0.92)		
Likelihood of Interacting with the Instructor					58.32***	.58
	M	1.92[a]	4.06[b]	6.82[c]		
	(*SD*)	(1.52)	(1.81)	(1.80)		
Perceptions of the Instructor's Policies					50.75***	.54
	M	3.62[a]	5.85[b]	7.51[c]		
	(*SD*)	(1.65)	(1.34)	(1.38)		
Perceived Engagement					67.48***	.61
	M	2.19[a]	2.25[a]	6.28[b]		
	(*SD*)	(1.59)	(1.08)	(1.85)		

Note. ***$p < .001$; Post hoc comparisons were made using Bonferroni-corrected pairwise comparisons. Means in the same row with different superscripts differ significantly at $p < .001$.

Table 3 ***Relationships Among (Select) Demographic and (All) Dependent Variables for First-Generation College Students (FGCS) and Continuing-Generation College Students (CGCS) in Study 1***

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Generational Status	1.46	0.50	--																
2. Participant Gender	1.74	0.44	-.16	--															
3. College Preparation (Y/N)	1.35	0.48	-.20*	.09	--														
4. Number of Credit Hours	13.94	3.15	.21*	.18*	-.05	--													
5. Number of Work Hours	2.39	1.12	-.27*	.13	-.15	-.30**	--												
6. SES	4.28	2.15	.44***	-.21*	-.30***	.003	-.07	--											
7. VC	6.30	1.36	.07	-.11	-.03	.04	-.07	.12	--										
8. VI	5.15	1.42	.10	-.39***	.03	-.03	-.20	.05	.06	--									
9. HC	7.10	1.14	.10	.20*	-.15	.14	.03	.18*	.32***	-.20*	--								
10. HI	6.95	1.24	-.20*	.14	.02	-.08	.32**	-.17*	.02	.13	-.04	--							
11. Instructor's Teaching Style	4.63	2.68	.002	-.01	-.03	.16	-.32**	-.004	.002	.04	.03	.01	--						
12. Information Retention and Understanding	5.73	1.80	.05	-.01	-.11	-.02	-.01	.13	-.01	-.08	.06	-.13	.22**	--					
13. Favorable Perceptions	4.36	2.25	.08	-.05	.04	.08	-.32**	-.001	.04	.09	.06	-.01	.85***	.18*	--				
14. Unfavorable Perceptions	3.90	2.02	-.01	-.04	.10	-.13	.24*	-.01	-.002	.09	-.02	-.01	-.77***	-.13	-.75***	--			
15. Likelihood of Interacting with the Instructor	4.59	2.54	.00	-.07	-.01	.02	-.21ǂ	.01	.05	.06	.07	.08	.81***	.06	.84***	-.75***	--		
16. Perceptions of the Instructor's Policies	5.78	2.03	-.05	-.06	.01	-.02	-.28*	-.02	-.07	.13	-.02	.09	.72***	.17	.69***	-.68***	.78***	--	
17. General Attitudes and Expectations	4.57	2.07	.05	-.06	.04	.11	-.31**	.02	.06	.09	.05	-.002	.88***	.15	.92***	-.82***	.91***	.77***	--
18. Perceived Engagement	4.05	2.71	.06	-.03	.02	.15	-.33**	-.02	.07	.06	.09	.001	.82***	.11	.91***	-.75***	.79***	.63***	.90***

Note. All values are collapsed across the three conditions. Generational Status was coded as 1 = FGCS and 2 = CGCS; Participant Gender was coded as 1 = Male and 2 = Female; College Preparation was coded as 1 = Yes and 2 = No. The correlations reported for these dichotomous variables are point-biserial correlation coefficients. SES: Socioeconomic Status. VC: Vertical Collectivism. VI: Vertical Individualism. HC: Horizontal Collectivism. HI: Horizontal Individualism. ǂ $p = .05$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4 ***Results (i.e., Means [Standard Deviations]) From the Separate One-Way ANOVAs that Probed the Significant Multivariate Main Effect of Instructor Behavior***

	Instructor Behaviors					
	Positive Instructor	Neutral Instructor	Negative Instructor	F (2, 136)	p	η^2
Favorable Perceptions	6.94[c] (1.37)	3.58[b] (1.47)	2.70[a] (1.35)	109.84	< .001	.62
Unfavorable Perceptions	1.92[a] (1.13)	4.09[b] (1.51)	5.73[c] (1.40)	82.38	< .001	.55
Likelihood of Interacting with the Instructor	6.99[c] (1.48)	4.40[b] (1.85)	2.32[a] (1.94)	73.21	< .001	.52
Perceptions of the Instructor's Policies	7.35[c] (1.51)	5.92[b] (1.51)	3.95[a] (1.60)	52.03	< .001	.43
General Attitudes and Expectations	6.82[c] (1.26)	4.14[b] (1.34)	2.80[a] (1.33)	103.51	< .001	.60
Perceived Engagement	7.14[b] (1.65)	2.98[a] (1.66)	2.23[a] (1.86)	103.01	< .001	.60
Information Retention and Understanding	6.51[b] (1.37)	5.24[a] (1.92)	5.59[a] (1.79)	6.78	.002	.09

Note. Post-hoc comparisons were made using Bonferroni corrected pair-wise comparisons. Means in the same row with different superscripts differ significantly at $p < .05$.

Table 5 ***Complete Demographic Breakdown for the First-Generation College Students (FGCS) and Continuing Generation College Students (CGCS) in Study 2***

	Generational Status	
	FGCS (*n* = 68)	CGCS (*n* = 63)
Assigned Condition		
Positive Instructor	*n* = 22	*n* = 19
Neutral Instructor	*n* = 20	*n* = 19
Negative Instructor	*n* = 26	*n* = 25
Mean (*SD*) Age	23.03 (8.32)	19.85 (2.79)
Gender Identification		
Male	19.4%	27.0%
Female	77.6%	71.4%
Non-Binary	3.0%	--
Race/Ethnicity		
White/Caucasian	64.7%	92.1%
Black	8.8%	3.2%
Hispanic or Latinx	11.8%	1.6%
Multiracial	11.8%	1.6%
Other	1.5%	1.6%
Grade Level		
First-Year Student	29.4%	57.1%
Sophomore	14.7%	28.6%
Junior	19.1%	6.3%
Senior	29.4%	6.3%

	Generational Status	
	FGCS (*n* = 68)	CGCS (*n* = 63)
Transfer Student	7.4%	1.6%
Involvement in College Preparation Programs in High School	61.8%	84.1%
Has Military Experience	1.5%	6.3%
Mean (*SD*) Number of Current Credit Hours	13.32 (3.36)	14.57 (1.63)
Currently Employed	64.7%	42.9%
Number of Hours Worked Each Week		
1-10 Hours	11.8%	11.1%
11-20 Hours	22.1%	23.8%
21-30 Hours	14.7%	4.8%
31 or more Hours	16.2%	3.2%
Involvement in On-Campus Organizations	42.6%	41.3%
Housing Situation		
Lives On Campus	33.8%	55.6%
Lives with Friends Off Campus	33.8%	15.9%
Lives with Family Off Campus	16.2%	7.9%
Lives Alone Off Campus	10.3%	7.9%
Born in North America	95.6%	98.4%
Identifies as Christian	55.9%	65.1%
Hometown Description		
Urban	20.6%	23.8%
Suburban	45.6%	54.0%
Rural	32.4%	22.2%

	Generational Status	
	FGCS (*n* = 68)	CGCS (*n* = 63)
Socioeconomic Status		
Under $20,000	19.1%	1.6%
$20,000 - $39,999	13.2%	6.3%
$40,000 - $59,999	22.1%	9.5%
$60,000 - $79,999	19.1%	17.5%
$80,000- $99,999	8.8%	11.1%
$100,000 or More	17.6%	52.4%
Marital Status		
Single	85.3%	96.8%
Married	10.3%	1.6%
Has Children	5.9%	1.6%

Table 6 ***Relationships Among (Select) Demographic Variables, Overall Sense of Belonging, and (All) Dependent Variables for First-Generation College Students (FGCS) and Continuing-Generation College Students (CGCS) in Study 2***

Variable	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Generational Status	1.48	0.50	--																	
2. Participant Gender	1.76	0.43	-.06	--																
3. College Preparation (Y/N)	1.27	0.45	-.25**	-.23*	--															
4. Number of Credit Hours	13.92	2.73	.23**	-.07	-.03	--														
5. Number of Work Hours	2.42	1.18	-.26*	.09	.30*	-.47***	--													
6. SES	4.53	2.29	.46***	.06	-.11	.08	-.12	--												
7. VC	6.60	1.24	.11	-.01	-.01	-.06	-.01	.15	--											
8. VI	5.06	1.47	.04	.04	-.03	.07	-12	.21*	.30**	--										
9. HC	7.28	1.05	.04	.20*	-.23**	-.08	.15	.02	.34***	-.02	--									
10. HI	6.99	1.11	-.25**	.12	-.06	.01	.06	-.04	.17	.34***	.09	--								
11. Overall SOB	6.43	1.34	.12	.15	-.18*	.17*	-.13	.23**	.25**	-.06	.40***	.17*	--							
12. Instructor's Teaching Style	4.22	2.83	-.04	-.08	.11	.11	.02	-.10	.06	.03	.03	.04	.20*	--						
13. Information Retention and Understanding	5.81	1.87	-.06	-.08	.26**	-.06	.17	.05	-.12	.20*	.04	-.04	-.06	-.01	--					
14. Favorable Perceptions	4.36	2.13	-.02	-.10	.05	.05	.02	-.03	.12	.02	-.02	-.03	.19*	.85***	-.05	--				
15. Unfavorable Perceptions	4.10	1.97	.17	.09	-.09	-.02	-.002	.11	-.10	.05	-.12	-.10	-.21*	-.82***	-.12	-.75***	--			
16. Likelihood of Interacting with the Instructor	4.18	2.67	-.13	-.12	.07	.08	.07	-.04	.03	.09	.003	.09	.23**	.89***	.002	.81***	-.78***	--		
17. Perceptions of the Instructor's Policies	5.34	2.31	-.16	-.05	.10	.04	-.04	.01	.09	.07	-.001	.15	.25**	.73***	.04	.66***	-.69***	.79***	--	
18. General Attitudes and Expectations	4.36	2.04	-.07	-.07	.13	.11	-.04	-.01	.07	.03	.02	.02	.28**	.91***	-.04	.88***	-.81***	.90***	.80***	--
19. Perceived Engagement	3.90	2.60	-.003	-.10	.05	.11	-.05	-.04	.08	.07	.01	-.03	.20*	.89***	-.07	.93***	-.79***	.83***	.69***	.92***

Note. All values are collapsed across the three conditions. Generational Status was coded as 1 = FGCS and 2 = CGCS; Participant Gender was coded as 1 = Male and 2 = Female; College Preparation was coded as 1 = Yes and 2 = No. The correlations reported for these dichotomous variables are point-biserial correlation coefficients. SES: Socioeconomic Status. VC: Vertical Collectivism. VI: Vertical Individualism. HC: Horizontal Collectivism. HI: Horizontal Individualism. SOB: Sense of Belonging. ǂ $p = .05$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 7 ***Results (i.e., Means [Standard Deviations]) From the Separate One-Way ANOVAs that Probed the Significant Multivariate Main Effect of Generational Status in Study 2***

	Generational Status			
	FGCS	CGCS	*F* (1, 129)	*p*
Favorable Perceptions	4.39 (2.08)	4.32 (2.20)	0.04	0.85
Unfavorable Perceptions	3.78 (1.96)	4.44 (1.95)	3.75	0.06
Likelihood of Interacting with the Instructor	4.51 (2.67)	3.83 (2.65)	2.18	0.14
Perceptions of the Instructor's Policies	5.69 (2.20)	4.95 (2.39)	3.45	0.07
General Attitudes and Expectations	4.49 (1.94)	4.22 (2.14)	0.57	0.45
Perceived Engagement	3.90 (2.58)	3.89 (2.64)	0.00	0.97
Information Retention and Understanding	5.91 (2.01)	5.70 (1.70)	0.43	0.52

Note. Post-hoc comparisons were made using Bonferroni corrected pair-wise comparisons. Means in the same row with different superscripts differ significantly at $p < .05$.

Table 8 ***Results (i.e., Means [Standard Deviations]) From the Separate One-Way ANOVAs that Probed the Significant Multivariate Main Effect of Instructor Behavior in Study 2***

	Instructor Behaviors					
	Positive Instructor	Neutral Instructor	Negative Instructor	F (2, 128)	p	η^2
Favorable Perceptions	6.77^{b} (1.20)	3.37^{a} (1.49)	3.18^{a} (1.42)	91.55	<.001	.59
Unfavorable Perceptions	2.09^{a} (1.22)	4.32^{b} (1.40)	5.55^{c} (1.39)	75.79	<.001	.54
Likelihood of Interacting with the Instructor	6.85^{c} (1.42)	4.07^{b} (2.17)	2.13^{a} (1.80)	77.28	<.001	.55
Perceptions of the Instructor's Policies	7.10^{c} (1.45)	5.83^{b} (1.81)	3.54^{a} (1.92)	49.10	<.001	.43
General Attitudes and Expectations	6.56^{c} (1.10)	3.90^{b} (1.49)	2.94^{a} (1.39)	86.33	<.001	.57
Perceived Engagement	6.90^{b} (1.23)	2.72^{a} (1.66)	2.38^{a} (1.85)	102.79	<.001	.62
Information Retention and Understanding	5.63^{a} (1.98)	6.38^{a} (1.63)	5.51^{a} (1.87)	2.77	0.067	.04

Note. Post-hoc comparisons were made using Bonferroni corrected pair-wise comparisons. Means in the same row with different superscripts differ significantly at $p < .05$.

Table 9 ***General Summary of the Main Effects, Two-Way, and Three-Way Interactions of Generational Status, Instructor Behaviors, and Overall Sense of Belonging for each of the Dependent Variables***

	Dependent Variable						
	Positive Perceptions of the Instructor	Negative Perceptions of the Instructor	Likelihood of Interacting with the Instructor	Perceptions of the Instructor's Policies	General Attitudes & Expectations	Perceived Engagement	Quiz Performance
Main Effect							
Gen. Stat.	n.s.	FGCS < CGCS	FGCS > CGCS	FGCS > CGCS	n.s.	n.s.	n.s.
Inst. Beh.	Pos. > Neut. = Neg.	Pos. < Neut. < Neg.	Pos. > Neut. > Neg.	Pos. > Neut. > Neg.	Pos. > Neut. > Neg.	Pos. > Neut. = Neg.	n.s.
SoB	Positive Relationship	Negative Relationship	Positive Relationship	Positive Relationship	Positive Relationship	Positive Relationship	n.s.
Two-Way Interaction							
Gen. Stat × Inst. Beh.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Gen. Stat. × SoB	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Inst. Beh. × SoB	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Three-Way Interaction							
Gen. Stat. × Inst. Beh. × SoB	Marginally Significant ǂ	Significant	Significant	n.s.	n.s.	n.s.	n.s.

Note: Gen. Stat. = Generational Status; Inst. Beh. = Instructor Behaviors; SoB = Overall Sense of Belonging; n.s. = Non-Significant Effect; Pos. Inst. = Positive Instructor; Neut. Inst. = Neutral Instructor; Neg. Inst. = Negative Instructor. ">" (and "<") implies that the mean for one group is greater than (or less than) the mean for another group, whereas "=" implies that the mean for one group is not statistically different than the mean from another group. ǂ $p = .05$. More detailed information is provided in text.

Table 10 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Positive Perceptions of the Instructor***

	SS	**df**	***F***	***p***	η^2p
Model	337.35	11	18.66	< .0001	0.63
Overall Sense of Belonging	11.78	1	6.47	0.01	0.09
Generational Status	0.21	1	0.12	0.73	0.00
Instructor Behaviors	308.79	2	84.80	< .0001	0.61
Overall Sense of Belonging ×Generational Status	0.06	1	0.03	0.86	0.00
Overall Sense of Belonging ×Instructor Behaviors	1.04	2	0.28	0.75	0.01
Generational Status ×Instructor Behaviors	4.37	2	1.20	0.30	0.02
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	11.10	2	3.05	0.05	0.05
Residuals	216.65	119			
Total	554.01	130			

Table 11 ***Simple Effects of Overall Sense of Belonging on Participants' Positive Perceptions of the Instructor***

Moderator Levels					
Instructor Behavior	Generational Status	*B*	*SE*	*t*	*p*
Positive Instructor	FGCS	0.23	0.23	1.00	0.32
	CGCS	0.43	0.28	1.53	0.13
Neutral Instructor	FGCS	-0.01	0.20	-0.03	0.98
	CGCS	**0.44**	**0.20**	**2.16**	**0.03**
Negative Instructor	**FGCS**	**0.43**	**0.21**	**1.98**	**0.05**
	CGCS	-0.12	0.21	-0.59	0.56

Note: Significant effects are bolded.

Table 12 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Negative Perceptions of the Instructor***

	SS	**df**	***F***	***p***	**η^2p**
Model	276.43	11	18.17	< .0001	0.63
Overall Sense of Belonging	17.40	1	10.96	0.001	0.10
Generational Status	18.44	1	11.61	0.001	0.09
Instructor Behaviors	218.72	2	68.89	< .0001	0.58
Overall Sense of Belonging ×Generational Status	1.06	1	0.66	0.42	0.00
Overall Sense of Belonging ×Instructor Behaviors	3.96	2	1.25	0.29	0.01
Generational Status ×Instructor Behaviors	1.45	2	0.46	0.63	0.00
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	15.40	2	4.85	0.009	0.08
Residuals	188.91	119			
Total	465.34	130			

Table 13 ***Simple Effects of Overall Sense of Belonging on Participants' Negative Perceptions of the Instructor***

Moderator Levels					
Instructor Behavior	Generational Status	*B*	*SE*	*t*	*p*
Positive Instructor	FGCS	0.02	0.22	0.10	0.92
	CGCS	**-0.87**	**0.26**	**-3.33**	**0.001**
Neutral Instructor	FGCS	-0.11	0.19	-0.58	0.56
	CGCS	-0.10	0.19	-0.52	0.61
Negative Instructor	**FGCS**	**-0.55**	**0.20**	**-2.76**	**0.007**
	CGCS	-0.09	0.19	-0.46	0.65

Note: Significant effects are bolded.

Table 14 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Participants' Anticipated Likelihood of Interacting with the Instructor***

	SS	**df**	***F***	***p***	η^2p
Model	502.58	11	17.33	<0.001	0.62
Overall Sense of Belonging	30.17	1	10.04	0.002	0.12
Generational Status	20.50	1	6.82	0.010	0.06
Instructor Behaviors	427.91	2	71.22	<0.001	0.57
Overall Sense of Belonging ×Generational Status	0.01	1	0.00	0.96	0.00
Overall Sense of Belonging ×Instructor Behaviors	0.75	2	0.12	0.883	0.00
Generational Status ×Instructor Behaviors	2.08	2	0.35	0.71	0.01
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	21.16	2	3.52	0.03	0.06
Residuals	357.48	119			
Total	860.06	130			

Table 15 ***Simple Effects of Overall Sense of Belonging on Participants' Anticipated Likelihood of Interacting with the Instructor***

Moderator Levels					
Instructor Behavior	Generational Status	*B*	*SE*	*t*	*p*
Positive Instructor	FGCS	0.14	0.30	0.47	0.64
	CGCS	**0.73**	**0.36**	**2.04**	**0.04**
Neutral Instructor	FGCS	0.15	0.30	0.60	0.55
	CGCS	0.44	0.26	1.66	0.01
Negative Instructor	**FGCS**	**0.81**	**0.28**	**2.93**	**0.004**
	CGCS	-0.03	0.26	-0.13	0.90

Note: Significant effects are bolded.

Table 16 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Participants' Perceptions of the Instructors' Policies***

	SS	**df**	***F***	***p***	η^2p
Model	324.96	11	11.66	<0.001	0.52
Overall Sense of Belonging	31.26	1	11.11	0.001	0.11
Generational Status	20.33	1	7.23	0.008	0.07
Instructor Behaviors	260.60	2	46.32	<0.001	0.45
Overall Sense of Belonging ×Generational Status	0.04	1	0.01	0.91	0.00
Overall Sense of Belonging ×Instructor Behaviors	2.22	2	0.39	0.68	0.01
Generational Status ×Instructor Behaviors	5.39	2	0.96	0.39	0.02
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	5.12	2	0.91	0.41	0.02
Residuals	334.74	119			
Total	659.69	130			

Table 17 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Participants' General Attitudes and Expectations of the Various Instructors***

	SS	**df**	***F***	***p***	η^2p
Model	307.40	11	19.96	<0.001	0.65
Overall Sense of Belonging	30.05	1	18.85	<0.001	0.19
Generational Status	4.16	1	2.61	0.11	0.03
Instructor Behaviors	261.44	2	82.02	<0.001	0.60
Overall Sense of Belonging ×Generational Status	0.74	1	0.47	0.50	0.00
Overall Sense of Belonging ×Instructor Behaviors	1.24	2	0.39	0.68	0.01
Generational Status ×Instructor Behaviors	1.37	2	0.43	0.65	0.01
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	8.41	2	2.64	0.08	0.04
Residuals	189.65	119			
Total	497.05	130			

Table 18 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Participants' Self-Reported Perceived Engagement***

	SS	**df**	***F***	***p***	η^2p
Model	519.10	11	21.07	<0.001	0.66
Overall Sense of Belonging	20.65	1	8.25	0.005	0.10
Generational Status	0.11	1	0.04	0.83	0.00
Instructor Behaviors	474.90	2	94.86	<0.001	0.64
Overall Sense of Belonging ×Generational Status	0.13	1	0.05	0.82	0.00
Overall Sense of Belonging ×Instructor Behaviors	7.19	2	1.44	0.24	0.02
Generational Status ×Instructor Behaviors	3.35	2	0.67	0.51	0.01
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	12.77	2	2.55	0.08	0.04
Residuals	297.86	119			
Total	816.97	130			

Table 19 ***Results from the Omnibus 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (Overall Sense of Belonging) ANOVA on Participants' Performance on the Quiz***

	SS	**df**	***F***	***p***	$\eta^2 p$
Model	31.89	11	0.87	0.58	0.07
Overall Sense of Belonging	1.46	1	0.42	0.52	0.00
Generational Status	1.57	1	0.45	0.51	0.00
Instructor Behaviors	17.52	2	2.49	0.09	0.04
Overall Sense of Belonging ×Generational Status	0.00	1	0.00	0.99	0.00
Overall Sense of Belonging ×Instructor Behaviors	0.15	2	0.02	0.98	0.00
Generational Status ×Instructor Behaviors	10.70	2	1.52	0.22	0.03
Overall Sense of Belonging ×Generational Status × Instructor Behaviors	0.49	2	0.07	0.93	0.00
Residuals	418.69	119			
Total	450.59	130			

Figure 1 ***First-Generation and Continuing-Generation College Students' (FGCS and CGCS, Respectively) Positive Perceptions of the Various Instructors' Behaviors at Different Levels of Overall Sense of Belonging***

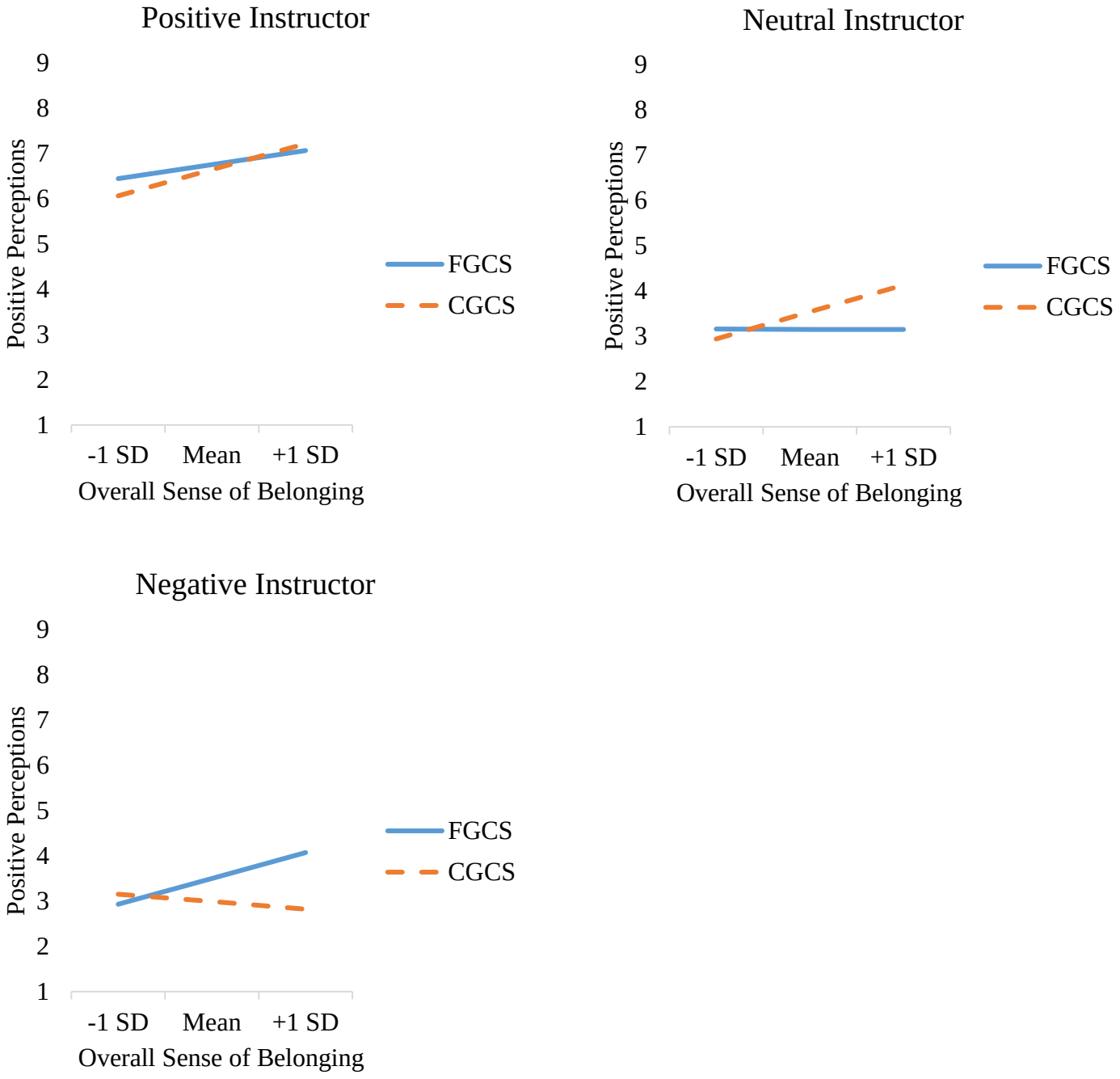


Figure 2 ***First-Generation and Continuing-Generation College Students' (FGCS and CGCS, Respectively) Negative Perceptions of the Various Instructors' Behaviors at Different Levels of Overall Sense of Belonging***

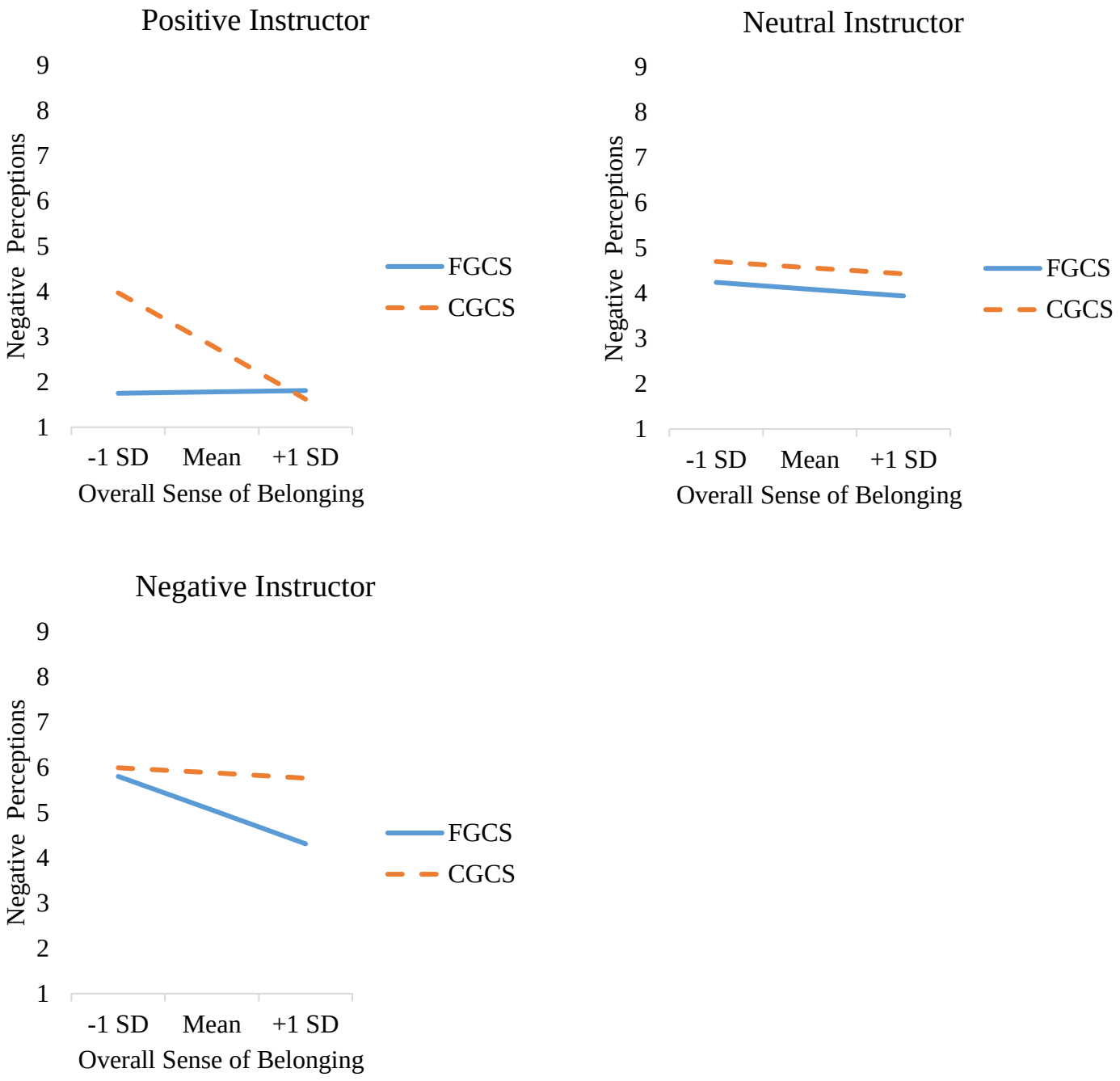
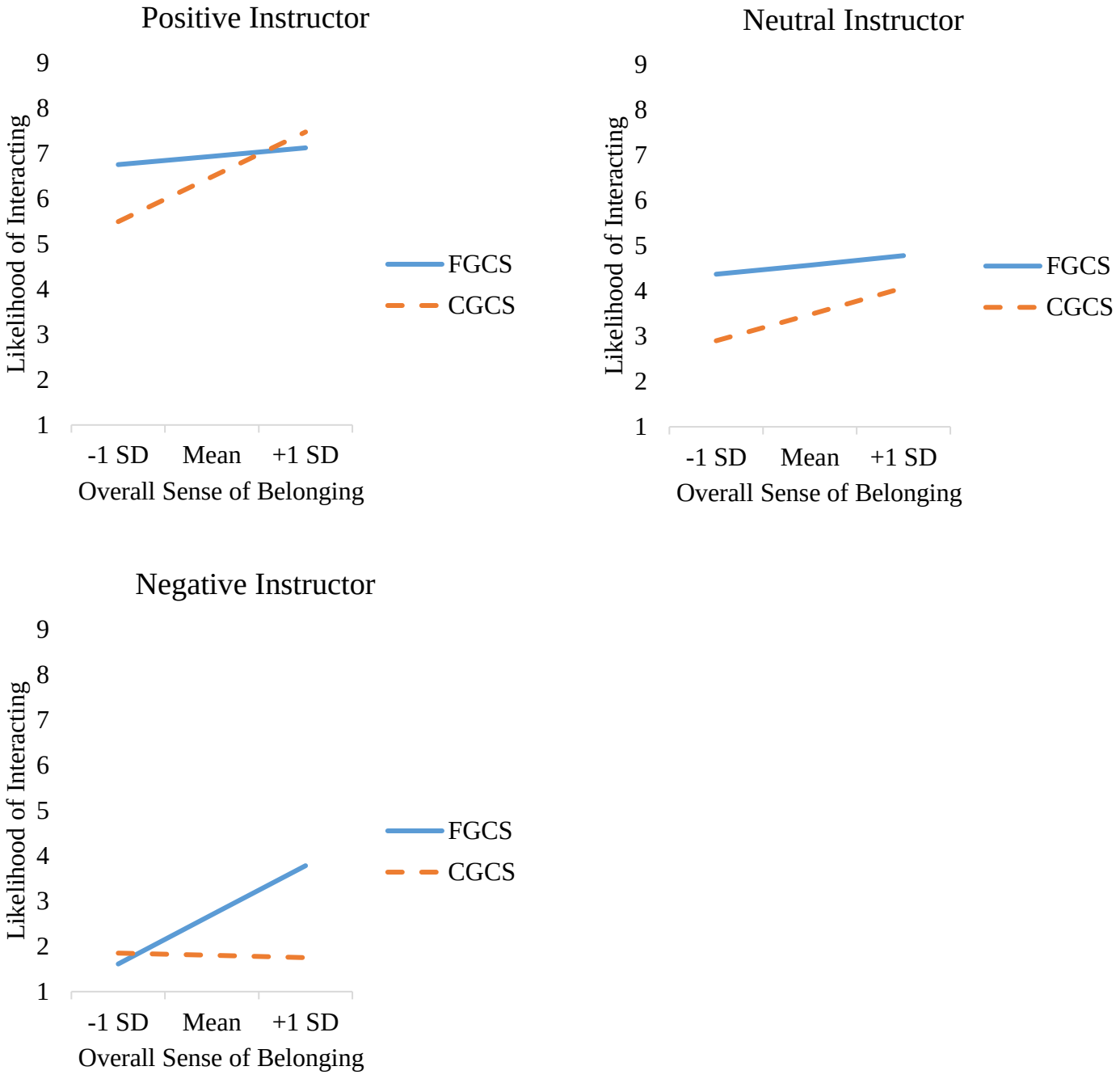


Figure 3 ***First-Generation and Continuing-Generation College Students' (FGCS and CGCS, Respectively) Anticipated Likelihood of Interacting with the Various Instructors' at Different Levels of Overall Sense of Belonging***



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Footnotes

[1]It should be noted that the current literature review on the barriers facing FGCS involves (a) studies whose participants attended a variety of institutions (e.g., two- and four-year colleges, public and private universities) and (b) studies that used various definitions of "first generation" in identifying participants.

[2]The proposed goal was to recruit at least 135 participants, with approximately half being FGCS and the other half being CGCS. Further, this proposed sample size would have allowed for approximately 22 FGCS and 22 CGCS to be randomly assigned to each of three remote teaching demonstration conditions (i.e., Positive Instructor, Neutral Instructor, Negative Instructor), a goal that was achieved in the present study (see Table 1). This target number of participants was based on a power analysis that was conducted, prior to the start of Study 1, using GPower (Faul et al., 2007; 2009) with six groups (Statistical Test: "MANOVA: Special effects and interactions", Effect size f^2= .0625, α = .05, power = .80, Number of predictors = 2, Response variables = 5).This power analysis was modeled after a similar analytic strategy used by O'Dea (2019) and O'Dea et al. (in preparation). Using the effect size f^2 = .0625 allowed for consistency with field standards (i.e., at least n = 20 per cell) such that when this value is entered into the power analysis using GPower, the resulting output recommends approximately 22 participants per cell. If the effect size f^2 = .15 (i.e., a medium effect size; Selya et al., 2012) or the effect size f^2 = .02 (i.e., a low effect size; Selya et al., 2012) were used instead, 60 participants (which would be too few in order to appropriately conduct the necessary analyses) or 411 participants (which would be too many to recruit throughout the course of a single semester) would be required, respectively.

[3]The eight-minute cutoff was selected because it was not realistic for participants to (a) review the informed consent, (b) provide their demographic information, (c) watch their randomly assigned teaching demonstration, (d) complete the corresponding quiz, and (e) complete the instructor opinion survey in that brief amount of time.

[4]The lengths of the positive instructor, neutral instructor, and negative instructor videos were approximately 12 minutes, 7 minutes, and 11 minutes, respectively. Although the positive and negative instructor videos were similar lengths, the neutral instructor video was shorter in duration due to the lack of positive and negative behaviors. More specifically, the portrayal of the positive instructor behaviors (e.g., providing examples, encouraging students to reach out if they have questions) as well as the negative instructor behaviors (e.g., discouraging student questions, potentially demeaning students if they have trouble with a course topic) were longer because the instructors in these videos had specific behaviors to display. However, the goal of the neutral instructor video was to portray an instructor as he simply read, word-for-word, the information presented on the corresponding PowerPoint presentation. As such, the neutral video was necessarily shorter than the other two videos.

[5]In order to test the effectiveness of the critical stimuli necessary for the present studies (i.e., the positive, negative, and neutral remote teaching demonstrations), a brief quantitative pilot study was conducted. This quantitative pilot study was designed to test the present manipulation of instructor's behaviors and empirically confirm that the remote teaching demonstrations are actually being perceived as positive, negative, and neutral by undergraduate participants. A total of 110 college-aged undergraduates from across various liberal arts institutions (i.e., Simpson College, Union College, Carroll College) were recruited to participate in a brief quantitative pilot study that was designed to test the effectiveness of the critical stimuli

(i.e., teaching videos of an instructor displaying positive, negative, or neutral behaviors) that were used for the present studies. Of the 110 students who enrolled in this quantitative pilot study via an online Qualtrics link, 19 were removed for missing data, and 3 were removed for indicated that they know or have heard of the instructor featured in the teaching video they watched. The remaining 88 participants were randomly assigned to watch a teaching demonstration featuring a Positive Instructor behaviors (n = 28), a Negative Instructor behaviors (n = 31), or a Neutral Instructor behaviors (n = 29). Because the focus of this preliminary study was to quickly pilot test the critical stimuli for the present studies, no demographic information was collected.

In order to assess participants' attitudes toward and perceptions of the various instructors described above, they were asked to respond to a series of statements adapted from Saucier et al. (in press). These statements have been designed to assess undergraduates' (a) positive perceptions of the instructor's characteristics (18 items; e.g., "*I believe this instructor is enthusiastic.*"), (b) negative perceptions of the instructor's characteristics (16 items; e.g., "*I believe this instructor is uncomfortable.*"), (c) anticipated likelihood of interacting with the instructor (7 items; e.g., "*I would be comfortable asking questions during this instructor's class.*"), (d) perceptions of the instructor's policies (6 items; e.g., "*The instructor's policies were clearly described.*"), and (e) perceived engagement (8 items; "*This instructor is able to engage students during class.*"). Participants indicated how much they agree (or disagree) with each of these statements using 9-point Likert-type scales ranging from 1 (*Strongly Disagree*) to 9 (*Strongly Agree*) with higher scores indicating more favorable perceptions of and anticipated responses to the instructor. These items were aggregated to create single composite scores for positive perceptions (α = .96), negative perceptions (α = .94), perceived likelihood of interacting

with the instructor (α = .97), perceptions of the instructor's policies (α = .91), and perceived engagement (α = .97).

Participants in this quantitative pilot study were also asked two different questions designed to assess the effectiveness of the present manipulation. After viewing the remote teaching demonstration, participants were first asked to rate how they would "describe this instructor's teaching style" using a 1 (*Very Negative*) to 9 (*Very Positive*) Likert-type scale. Participants were also asked to choose the one word that would best describe the instructor's teaching styles and behaviors and could select either "*Positive*", "*Negative*," or "*Neutral*."

In order to test the overall effectiveness of the manipulation, the frequency of participants' ratings of the one word they would use to describe the instructor they viewed was computed. For participants in the Positive Instructor condition, 78.6% rated this instructor as positive. For participants in the Negative Instructor condition, 89.7% rated this instructor as negative. For participants in the Neutral Instructor condition, 64.5% rated this instructor as neutral, but 32.3% rated this instructor as negative. Overall, these frequencies provide initial support for the effectiveness of the manipulation. To further test the effectiveness of the manipulation, a series of one-way ANOVAs was also conducted. As presented in Table 2, participants in this quantitative pilot study rated the Positive Instructor as significantly more positive than the Neutral Instructor who, in turn, was rated more positively than the Negative Instructor. It is noteworthy to also mention that Perceived Teaching Style was rated on a 1 (*Very Negative*) to 9 (*Very Positive*) scale with the midpoint being neutral (i.e., *Neither Negative nor Positive*). As such, it is promising that the Positive, Negative, and Neutral Instructor conditions corresponded with positive, negative, and neutral participant ratings, respectively.

The results presented in Table 2 also show that the participants had more positive perceptions of the Positive Instructor than either the Neutral or Negative instructors, but also more negative perceptions of Negative instructor than the Neutral Instructor who, in turn, was perceived more negatively than the Positive Instructor. The participants also tended to agree more strongly that they would be more likely to interact with the Positive Instructor than the Neutral Instructor, but also more likely to interact with the Neutral Instructor than the Negative Instructor. Similarly, the participants rated the Positive Instructor's policies more favorably than the Neutral Instructor's policies which, in turn, were rated more favorably than the Negative Instructor's policies. Finally, when asked to rate their perceived engagement, the participants rated the Positive Instructor as significantly more engaging than either the Neutral or Negative Instructors. Taken together, the results of this quantitative pilot study provide clear support for the effectiveness of the present study's manipulation as well as convergence in the participants' beliefs that the remote teaching demonstrations were actually depicting positive, negative, and neutral instructors. Despite the compelling results from this quantitative pilot study, it is important to note that these data are limited in that the participants' demographic information was not collected. That being said, all of these participants were recruited from various liberal arts colleges. As such, it is safe to assume that these participants are all college-aged undergraduates. Substantial demographic information was collected in Studies 1 and 2.

[6]Several of the items used in the quantitative pilot study were also used in Studies 1 and 2 (i.e., positive/negative perceptions of the instructor's behaviors, perceived likelihood of interacting with the instructor, perceptions of the instructor's policies, and perceived engagement). However, whereas the quantitative pilot study used these items to test the effectiveness of the teaching demonstration videos, the current investigation used these items to

test for potential differences between FGCS and CGCS in terms of their perceptions of and anticipated responses to various instructor behaviors. As such, the use of these specific items in the quantitative pilot study *and* current investigation not only provided support for the use of the positive, negative, and neutral teaching demonstrations, but also allowed for the current hypotheses to be tested.

[7]This project was financially supported by the Kansas State University Arts, Humanities, & Social Sciences (AHSS) Small Grant Program. This program awards graduate students up to $1,000 to aid in the completion of their dissertations. These funds were used to offer FGCS a financial incentive to participate in the current investigation. More specifically, these funds were used to purchase ten, $100 gift cards to the Kroger family of grocery stores. At the conclusions of Studies 1 and 2, ten first-generation college students were randomly selected and notified that they had won the gift card.

[8]Zero-order correlations were also computed to analyze the relationship between the variables presented in Table 3 and the extent to which participants in Study 1 "consider being a first-generation college student to be a significant part of [their] identity as a study" (scored on a 1 [*Strongly Disagree*] to 9 [*Strongly Agree*] scale). The extent to which students in Study 1 actually identified with being a FGCS was significantly related to gender ($r = .30$, $p = .01$; i.e., female FGCS were more likely than male FGCS to believe that being a first-generation student was a significant part of their identity), VC ($r = .28$, $p = .01$; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the more strongly they agreed that they see themselves as part of a collective, but there are hierarchies within that collective), HC ($r = .40$, $p < .001$; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the

more strongly they agreed that they see themselves as part of a collective, but all members within the collective are equals), and General Attitudes and Expectations (r = -.27, p = .02; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the less favorable their general attitudes toward and expectations of the instructor they viewed). Given that (a) the internal consistencies for the dimensions of the COS were low (i.e., αs < .68) and (b) the relationships between the extent to which participants agree that being a first-generation student is a significant part of their identity, gender, and general attitudes and expectations did *not* replicate in Study 2 (see Footnote 10), these results should be interpreted with caution.

[9]The target sample size for Study 2 was computed using a similar power analysis to the one reported in Study 1.

[10]During the Department of Psychological Science's prescreening portion of the Spring 2019 semester, a total of 302 undergraduates (67 % female, 34% first-year students, 81% Caucasian/White) between the ages of 18 and 25 (M_{age} = 19.30; SD_{age} = 1.37) completed the modified UBQ. The internal reliabilities (αs) of the total scale and the three subscales in this preliminary study were consistent with the internal reliabilities reported in Study 2.

[11]Just as in Study 1, zero-order correlations were computed to analyze the relationship between the variables presented in Table 6 and the extent to which participants in Study 2 "consider being a first-generation college student to be a significant part of [their] identity as a study" (again scored on a 1 [*Strongly Disagree*] to 9 [*Strongly Agree*] scale). The extent to which students in Study 2 actually identified with being a FGCS was significantly related to VC (r = .43, p < .001; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the more strongly they agreed that they see

themselves as part of a collective, but there are hierarchies within that collective), HC (r = .25, p < .04; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the more strongly they agreed that they see themselves as part of a collective, but all members within the collective are equals), and HI (r = .32, p = .008; i.e., the more strongly FGCS agreed that they consider being a first-generation student to be a significant part of their identity, the more strongly they agreed that they see themselves as fully autonomous, and believe that equality among individuals exists). Just as in Study 1, given that the internal consistencies for the dimensions of the COS were again low (i.e., αs < .68), these results should be interpreted with caution.

[12]The variable representing previous experiences in college preparation programs was a dichotomous, "yes/no" variable such that "yes" = 1 and "no" = 2 which is why that relationship is negative.

[13]Prior to computing the primary analyses for Study 2, a series of independent samples *t*-tests were conducted to test for differences between FGCS and CGCS in their overall sense of belonging as well as the three different dimensions of the UBQ (i.e., University Affiliation, University Support and Acceptance, Instructor Relations). Results from these analyses show that there were no significant differences between FGCS and CGCS in their overall sense of belonging, $t(129) = -1.42$, $p = .16$, University Support and Acceptance, $t(129) = -2.89$, $p = .15$, and Instructor relations, $t(129) = 0.73$, $p = .47$. However, there was a significant difference between FGCS and CGCS in their ratings of University Affiliation, $t(129) = -2.89$, $p = .005$. More specifically, FGCS (M = 5.92; SD = 1.84) tended to agree less strongly that they associate their personal identity with their university than did CGCS (M = 6.80; SD = 1.64). Given this finding, exploratory 2 (Generational Status: FGCS, CGCS) × 3 (Instructor Behaviors: Positive

Instructor Behaviors, Neutral Instructor Behaviors, Negative Instructor Behaviors) × Continuous (University Affiliation) ANOVAs were conducted for each of the dependent variables. However, the only significant effects were main effects, and such findings were highly consistent with those reported in the results for Study 2. As such, the primary analyses for Study 2 were computed using students' overall sense of belonging, and no additional analyses using University Affiliation were conducted.

[14]Each of the critical analyses for Study 2 were computed using Jamovi because Jamovi is a free and easy to use statistical software and is comparable to SPSS (e.g., Sahin & Aybek, 2019; The jamovi project, 2021). Although separate multiple regressions using SPSS and Hayes' (2018) process macro was initially proposed, Jamovi was used because it (a) produces the same results as SPSS, (b) produces output that is easier to interpret, and (c) allowed the analyses to be conducted remotely (i.e., SPSS was only available on computers on-campus and thus was generally inaccessible for much of the last year).

[15]The means (and standard errors [i.e., *SE*]) reported here—and in the subsequent analyses—represent estimated marginal means that were calculated by averaging across interacting variables.

[16]Exploratory 3 (Instructor Behavior: Positive Instructor, Neutral Instructor, Negative Instructor) × 5 (Year in School: First-Year Student, Sophomore, Junior, Senior, Transfer Student) factorial ANOVAs were conducted for each of the dependent variables in Studies 1 and 2 to assess for any potential effects of students' Year in School. There were no significant main effects for or interactions with this variable. Similarly, a series of correlations were conducted (with Transfer Students removed) to assess for any relationships between participants' grade level and each of the dependent variables in Studies 1 and 2. There were no significant

relationships between participants' grade level and their perceptions of and attitudes toward the various instructor behaviors. Although there were no significant main effects for, interactions with, or correlations between participants' year in school and the various dependent variables in Studies 1 and 2, it is important to note that a majority of the participants in the current investigation were First-Year Students. As such, any analyses including this variable would not have sufficient variability for reliable conclusions.

[17]Although gender identity was assessed in both Study 1 and Study 2, a vast majority of participants identified as either Male or Female. As such, any analyses comparing the extent which any gender queer or gender non-conforming individuals may have a different overall sense of belonging could not be computed without violating the assumption of equal sample sizes. Further there were no significant differences between Males (M = 6.11; SD = 1.21) and Females (M = 6.58; SD = 1.36) in their overall sense of belonging in Study 2, $t(125) = -1.73$, $p = .09$.

Appendix A - Demographics Questionnaire

Note to Supervisory Committee members: This questionnaire is an adaptation of an online survey that will be administered via Qualtrics. All participants will respond by selecting (i.e., "clicking on") their response to each item unless otherwise instructed.

I identify as
- Male
- Female
- Transgender
- Gender Queer/Gender non-conforming
- I'd rather not say
- Other (Please specify)

_____

Please enter your age. _____

What is your race/ethnicity?
- White/Caucasian
- Black
- Hispanic/Latino/a
- Asian
- Native American
- Pacific Islander
- Middle Eastern
- Multiracial
- Other (Please specify)

_____

What is your current year in school?
- First year
- Second year
- Third year
- Fourth year
- Fifth (or more) year

[If students indicate that they are in their second, third, fourth, or fifth year…]
- Have you been at Kansas State University the entire time?
  - Yes
  - No
    - [If the participant selects "No"] In the space provided below, please describe the institution(s) you attended before transferring to Kansas State University.

_____

While in high school, did you participate in any college preparation courses/programs?

- No
- Yes
    - Using the space provided below, please briefly describe the college preparation courses/programs you participated in while in high school.

_____

Are you currently, or have you ever been in the military?

- No
- Yes
    - Using the space provided below, please briefly describe your military experience.

_____

How many credit hours are you currently taking? _____

Are you employed during the academic year?

- No
- Yes

[If the participant selects "Yes"] How many hours do you work during a typical week?

- 1-10
- 11-20
- 21-30
- 31-40
- 41 or more

Are you involved in any on-campus organizations (e.g., Student Governing Association, Black Student Union, Agricultural Education Club)?

- No
- Yes
    - [If the participant selects "Yes"] Using the space provided below, please list the names of the organizations in which you are involved.

      _____
    - [If the participant selects "Yes"] Approximately how many total hours per week are you actively involved with these organizations?

      _____

Which of the following statements best describes your current housing situation?

- I live in on-campus housing.
- I live with friends off campus.
- I live with family off campus.
- I live alone off campus.
- Other (please specify)

_____

Please enter your religious denomination. _____

Where were you born?

- North America
- Central America
- South America
- Europe
- Africa
- Asia
- Australia
- Pacific Islander
- Caribbean Islands
- Other (please explain)
- Prefer not to say

What is the highest level of education that has been completed by your parent(s) (or legal guardian[s])?

- N/A
- Some High School
- High School Diploma/GED
- Some College
- 2-year College Degree
- 4-year College Degree
- Master's Degree
- Doctoral Degree
- Professional Degree (JD, MD)

[If a participants' responses to the above item indicates that they are a FGCS] Your responses to the previous items indicate that you are a first-generation college student (i.e., someone whose parents or legal guardians have never earned a four-year degree). Please indicate the extent to which you agree (or disagree) with the following statement:

"I consider being a first-generation college student to be a significant part of my identity as a student."
1 (*Strongly Disagree*) to 9 (*Strongly Agree*)
How would you describe your hometown?

- Urban
- Suburban
- Rural

What is your family's estimated annual household income?

- Under $20,000
- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 - $79,999
- $80,000 - $89,999
- $90,000 - $99,999
- $100,000 - $109,999
- $110,000 - $119,999
- $120,000 - $129,999
- $130,000 - $139,999
- $140,000 - $149,999
- $150,000 or more

What is your marital status?

- Married
- Single
- Divorced
- Widowed

Do you have any children?

- No
- Yes

[If Yes]
How many children do you have?
[Drop down box, from 1 to "more than 10"]

Appendix B - Cultural Orientation Scale (COS)

Using the 9-point scale provided below, please indicate how much you agree (or disagree) with each of the following statements.

1 9

Strongly Disagree *Strongly Agree*

Horizontal Individualism Items:

1. I'd rather depend on myself than others.
2. I rely on myself most of the time; I rarely rely on others.
3. I often do "my own thing."
4. My personal identity, independent of others, is very important to me.

Vertical Individualism Items:

1. It is important that I do my job better than others.
2. Winning is everything.
3. Competition is the law of nature.
4. When another person does better than I do, I get tense.

Horizontal Collectivism Items:

1. If a coworker gets a prize, I would feel proud of them.
2. The well-being of my coworkers is important to me.
3. To me, pleasure is spending time with others.
4. I feel good when I cooperate with others.

Vertical Collectivism Items:

1. Parents and children must stay together as much as possible.
2. It is my duty to take care of my family, even when I have to sacrifice what I want.
3. Family members should stick together, no matter what sacrifices are required.
4. It is important to me that I respect the decisions made by my groups.

Appendix C - Study Instructions and Cover Story

Thank you for agreeing to participate in this study. The general purpose of this study is to assess undergraduates' attitudes toward remote teaching. You will also be asked to provide us with some demographic information as well as respond to a series of statements that are designed to assess your general experiences as a college student as well as your opinions about your university. You will then be asked to view a brief remote teaching demonstration by one of many instructors who have volunteered to assist in conducting this study. After you have watched the remote teaching demonstration, you will be asked to rate your perceptions of and attitudes toward various aspects of the remote teaching demonstration. All of your responses will be kept confidential, so please answer honestly.

Appendix D - Links to the Three Different Teaching Demonstrations

Teaching demonstration featuring the Positive Instructor Behaviors:

https://youtu.be/FkylHfx7ENs

Teaching demonstration featuring the Neutral Instructor Behaviors:

https://youtu.be/Craf67BfenM

Teaching demonstration featuring the Negative Instructor Behaviors:

https://youtu.be/w1UHuVvZBxk

Appendix E - Quiz to Assess Students' Retention & Understanding of the Information Presented in the Teaching Demonstrations

Please complete the following quiz over the information that was covered in the video you just watched.

1. Emails to this instructor should include each of the following EXCEPT _____.
    a. an appropriate salutation/greeting
    b. the date/time of the instructor's course***
    c. your name
    d. your availability

2. Which of the following policies was NOT covered in the video you just watched?
    a. Attendance***
    b. Office Hours
    c. Extra Credit
    d. Late Work

3. Psychology was defined as the scientific study of:
    a. why people do the things that they do.
    b. the unconscious mind.
    c. all aspects of behavior and mental processes.***
    d. clinical treatments.

4. Which of the following statements about behaviors and/or mental processes is TRUE?
    a. Mental processes are not observable.***
    b. Behaviors are more difficult to measure than mental processes.
    c. Mental processes include our thoughts, actions, and mannerisms.
    d. Behaviors and mental processes include anything that can be directly observed.

5. In the video you just watched, the main goal of psychological science was to:
    a. train the next generation of clinical psychologists.
    b. find cures for various mental illnesses.
    c. figure out why we do the things that we do.***
    d. increase prosocial and decrease antisocial behaviors.

6. Which of the following statements about psychology as a profession is FALSE?
    a. Few psychologists actually work with patients.***
    b. Psychology as a field has several areas of expertise.
    c. Many psychologists work in academic settings.
    d. Most psychologists work in clinical settings.

7. Based on the video you just watched, which of the following was NOT described as a reason to learn about psychology?
    a. Advance the effectiveness of different treatments for mental illness.
    b. Attempt to increase prosocial behaviors.
    c. Identify the advantages of eye-witness testimonies.***
    d. Identify the best way to study for exams.

8. Any study using human participants must be approved by the _____ for ethical standards.
    a. Department of Ethical Review
    b. Instrumental Revisions Board
    c. Board of Ethical Inquiries
    d. Institutional Review Board***

9. According to the American Psychological Association (APA), researchers are responsible for keeping their participants' personal information (e.g., identity) secret. This *best* refers to the ethical guideline of _____.
    a. Confidentiality***
    b. Informed Consent
    c. Privacy
    d. Deception

10. Informing participants of the purpose of the study after they complete the study is known as _____.
    a. Deception
    b. Informed Consent
    c. Confidentiality
    d. Debriefing***

Note: *** denotes correct answer.

Appendix F - Instructor Opinion Survey

The following questionnaire is designed to assess your perceptions of and attitudes toward the instructor you just observed in the video. Using the 9-point scale provided below, please rate how strongly you disagree/agree with each of the following statements.

Strongly Disagree		Disagree Somewhat		Neither Disagree nor Agree		Agree Somewhat		Strongly Agree
1	2	3	4	5	6	7	8	9

Perceptions of the Instructor's Characteristics (adapted from Saucier et al., in preparation)

In responding to this questionnaire, please insert each of the characteristics listed below, one at a time, in the blank within the following statement:

"Based on the remote teaching demonstration I just observed,
I believe this instructor is _____."

1. Enthusiastic+
2. Confident+
3. Excited+
4. Exhilarated+
5. Interesting+
6. Energetic+
7. Assertive+
8. Engaging+
9. Passionate+
10. Comfortable+
11. Delighted+
12. Determine+
13. Empowering+
14. Inspiring+
15. Stressed-
16. Bored-
17. Anxious-
18. Uncomfortable-
19. Irritated-
20. Distracted-
21. Aggravated-
22. Annoyed-
23. Desperate-
24. Dissatisfied-
25. Overwhelmed-
26. Nervous-
27. Worried-

28. Exhausted-
29. Disappointing-
30. Inadequate-
31. Caring+
32. Knowledgeable+
33. Fair+
34. Challenging+

Perceived Likelihood of Interacting with the Instructor

1. I would be comfortable asking questions during this instructor's class.
2. I would be comfortable going to this instructor's remote office hours.
3. I would be comfortable reaching out to this instructor after class.
4. I would be comfortable speaking with this instructor outside of class.
5. I would be hesitant to speak up in this instructor's class.
6. I would enjoy having a conversation with this instructor outside of class.
7. I would feel comfortable emailing this instructor.

Perceptions of the Instructor's Policies

1. I understand this instructor's policies.
2. I would be comfortable asking this instructor about his policies.
3. This instructor's policies are fair.
4. This instructor's policies are unreasonable.
5. This instructor's policies are too strict.
6. This instructor's policies were designed to punish his students.

General Attitudes and Expectations

1. I think I would do well academically in this instructor's class.
2. This instructor wants me to do well academically in his/her class.
3. I think this instructor genuinely cares about my success in his/her class.
4. I think I would learn a lot from this instructor.
5. I think I would enjoy going to this instructor's class.
6. I imagine I would be upset if I missed a session of this instructor's class.
7. I think I would be likely to skip this instructor's class occasionally.-
8. I would feel like I do not belong in this instructor's class.-
9. I would feel like I belong in this instructor's class.
10. I think this instructor would help me to feel more connected to the university.
11. I think I would be able to build connections with the other students in this instructor's class.
12. This instructor would make me feel excited to come to class.
13. This instructor would make me feel like I belong in his/her class.
14. I would consider changing majors if I had to take several classes with this instructor.-
15. This instructor would make me question my decision to come to this school.-
16. I would likely drop this instructor's class.-
17. I would want to take this instructor's class.
18. I think I would be able to relate to this instructor.
19. This instructor makes me feel like I belong at Kansas State University.
20. I think this instructor would be able to relate to me.

21. I think this instructor is only teaching because he/she is required to teach.-
22. I would only take this instructor's class if it was required. (reverse coded)
23. This instructor would make me feel like I do not belong at Kansas State University.-

Perceived Engagement

1. This instructor is able to engage students during class.
2. This instructor does not know how to get students engaged in the class.-
3. This instructor is motivated to get students engaged in the class.
4. Engaging students in the class is one of this instructor's strengths.
5. Not engaging students in the class is one of this instructor's weaknesses.-
6. This instructor wants to be engaging.
7. This instructor is trying to be engaging.
8. This instructor is engaging.

Appendix G - Sample Informed Consent Form

PROJECT TITLE: Perceptions of Remote Instructors' Behaviors

PRINCIPAL INVESTIGATOR: Donald A. Saucier, Ph.D.

CONTACT AND PHONE FOR ANY PROBLEMS/QUESTIONS: Don Saucier, Ph.D., saucier@ksu.edu

IRB CHAIR CONTACT/PHONE INFORMATION: Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 1 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224; Jerry Jaax, Associate Vice Provost for Research Compliance and University Veterinarian, 1 Fairchild Hall, Kansas State University, KS 66506, (785) 532-3224.

PURPOSE OF RESEARCH: This study was designed to assess students' perceptions of and attitudes toward instructors who are teaching in remote/online settings.

PROCEDURES OR METHODS TO BE USED: After providing us with your demographic information, you will complete a survey about your personal experiences as a college student. You will then watch a brief video on a random college instructor's remote class and provide your perceptions of the instructor's behaviors.

LENGTH OF STUDY: This study will take approximately 45 minutes to complete.

RISKS ANTICIPATED: There are no known risks associated with this study and you are not expected to experience any discomfort beyond what you typically experience in your daily life.

BENEFITS ANTICIPATED: You will receive General Psychology credit for your participation in this study. It is also possible that the results from the current investigation will be used to facilitate professional development opportunities designed to optimize college-level teaching.

EXTENT OF CONFIDENTIALITY: Your responses will be strictly anonymous and confidential, and will be used only by the researchers for approved research purposes. Further, your responses will be electronically stored and password protected.

TERMS OF PARTICIPATION: I understand this project is research and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation or penalty.

I verify that by clicking the button below, I am indicating that I have read and understand this consent form, and willingly agree to participate in this study under the terms described. By providing responses to this survey, I acknowledge that I have received this consent information. Please keep or print a copy of this form for your records.

Appendix H - Debriefing Statement

Thank you for participating in this study. It would not be possible to conduct research without the help of students like you.

There were no right or wrong answers to any of the items you responded to today; we were simply interested in your opinions. Only researchers involved in the study will have access to your responses, and your responses will be kept confidential.

For this study, it was important that we provided you with misleading information about some aspects of the study. Now that your participation is complete, we will describe the misleading information to you and why it was important to include some minor deception in this study. You were told that the purpose of this study was to assess students' attitudes toward remote teaching. In actuality, we are primarily interested in the factors that influence students' perceptions of various instructors who display positive, neutral, or negative policies and characteristics. In order to protect the integrity of this study, we could not divulge this critical information until after you had completed the questionnaires.

If you are struggling in your classes and would like to learn more about the various support systems in place to help all K-State students be successful, you may contact the Office of Student Life (email: stulife@ksu.edu; phone: 785-532-6434; office: 201 Holton Hall).

If you would like to know more about this study, or have any questions or concerns regarding your participation in this study, please feel free to contact me, Tucker Jones, at tuckerj@ksu.edu or my major professor, Dr. Donald Saucier, Professor, Department of Psychological Sciences, at saucier@ksu.edu.

Please do not disclose the research procedures and/or purpose of this study to anyone who might participate in the future, as this could affect the results of the study. We genuinely appreciate your cooperation and support of our research by keeping your knowledge about this study confidential. Thank you for participating in this study.

Appendix I - Modified University Belonging Questionnaire

Using the 9-point scale provided below, please rate how strongly you disagree/agree with each of the following statements.

Strongly Disagree		Disagree Somewhat		Neither Disagree nor Agree		Agree Somewhat		Strongly Agree
1	2	3	4	5	6	7	8	9

University Affiliation

1. I take pride in wearing my university's colors.
2. I tend to associate myself with my university.
3. I like to tell people about my university.
4. I feel a sense of pride when I meet someone from my university off campus.
5. I would be proud to support my university in any way I can in the future.
6. I have university-branded material (e.g., clothing, pens, notebooks) that others can see.
7. I am proud to be a student at my university.
8. I attend university sporting events to support my university.
9. I feel "at home" on campus.
10. I feel like I belong to my university when I represent it off campus.
11. I have found it easy to establish relationships with other people at my university.
12. I feel similar to other people at my university.

University Support and Acceptance

1. My university provides opportunities to engage in meaningful activities.
2. I believe there are supportive resources available to me on campus.
3. My university environment provides me an opportunity to grow.
4. My university provides opportunities to have diverse experiences.
5. My cultural customs are accepted at my university.
6. I believe I have enough academic support to help me graduate from my university.
7. I am satisfied with the academic opportunities at my university.
8. The university I attend values individual differences.
9. It is difficult to meet other individuals at my university. (reverse scored)*
10. No one at my university knows anything personal about me. (reverse scored)*
11. I rarely talk to other individuals at my university. (reverse scored)*
12. I know very few people at my university. (reverse scored)*

Instructor Relations

1. I believe that one or more of my instructors at my university cares about me.
2. I feel connected to one or more of my instructors at my university.
3. I feel that one or more of my instructors appreciates me.
4. I feel that one or more of my instructors has valued my contributions in class.
5. I would feel comfortable seeking help from one or more of my instructors before or after class.*
6. I would feel comfortable asking one or more of my instructors for help if I did not understand a portion of course-related material.*
7. I would feel comfortable seeking help from one or more of my instructors outside of class time (e.g., during his/her office hours).*
8. I would feel comfortable talking about an academic problem with one or more of my instructors.*
9. I would feel comfortable asking one or more of my instructors for help with a personal problem.*
10. I feel that one or more of my instructors would be sensitive to hearing about any academic difficulties I was encountering if I shared them.*
11. I feel that one or more of my instructors would really try to understand any personal problems I was experiencing if I talked about them.*
12. I feel that one or more of my instructors would take the time to talk with me if I needed help.*
13. I feel that one or more of my instructors would be sympathetic if I was upset.*

Note: *denotes items that have been adapted from Hoffman et al.'s (2002) "Sense of Belonging" scale. The statements on the modified UBQ will be presented to my participants in a mixed order.